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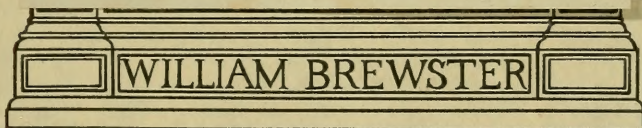
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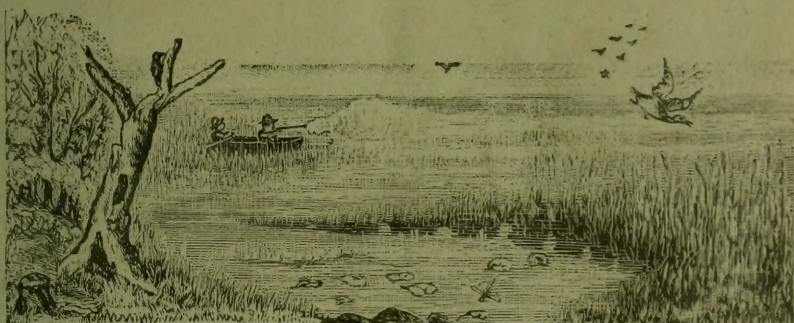
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CANADIAN SPORTSMAN

AND

Naturalist:

A MONTHLY JOURNAL.



MONTREAL, JANUARY 13, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

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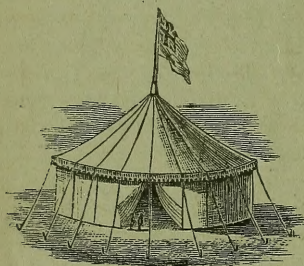
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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 1.

MONTREAL, JANUARY 15th, 1881.

Vol. I.

TO SPORTSMEN AND LOVERS OF NATURAL HISTORY.

There is an evident demand for a lively journal devoted to our Field Sports and Natural History. The Canadian sportsman, properly speaking, never had a recognized paper whereby he could communicate his experiences. Newspapers as a rule took a daily public interest in matters of this nature, but a future reference to their columns has invariably been lost. This will not be the case with the *SPORTSMAN* which is printed in proper form, may be filed, bound or become a historical document. Besides, the greater part of the original matter written on this side of the St. Lawrence, referring to our Sporting matters and Natural History, has been generally posted to American scientists or to journals published in the United States; therefore, the literary talent produced by and properly belonging to this class of our intelligent manhood, has been absorbed through other channels. We are anxious to obviate this, hence the issue of the *CANADIAN SPORTSMAN AND NATURALIST*.

Our columns are therefore open to correct brief reports on Field Sports, and matters relating to Canadian Natural History. We intend to give accurate accounts of the large four-footed game; such as the Moose, the Woodland and Barren-ground Caribou; the Virginian Deer, and smaller quadrupeds. Another object in so doing, is to make an effort to harmonize the Game Laws of Canada, particularly those of the Provinces of Ontario and Quebec.

Ornithology and Oölogy, combining descriptions and remarks on our Northern Birds, their nests and eggs, will take up a portion of our space during the summer season of 1881. Thenceforth the other branches of Natural Science will be periodically attended to.

Our columns are open to writers on the delightful and exciting sport of fishing for Salmon, Trout, and other species of fish that rise to the fly. The most prolific lakes, rivers and localities will be carefully and correctly described. We intend to give an easy and inexpensive way to reach them. Lists of the food fishes found in our inland and maritime waters will be given, together with notes relating to them.

Next we approach Entomology—a branch of natural study containing forms of great interest, and at this age, studied more than any other terrestrial life. It is possible that the Editor who is now studying the *Solitary Wasps of the North*, will be able to describe some additional forms to the already important work on this class of American insects, by Henri de Saussure, of Geneva, Switzerland.

During the first year's issue, the monthly number of our pages will be necessarily confined to eight, but should the journal succeed in attaining the anticipated support which we desire, it will be enlarged to sixteen pages of interesting matter. Now, its existence rests with our sportsmen and students of Natural History; give it your support, and we will furnish you with a neat, well-conducted, spirited periodical, which will reach you regularly every month.

In a former part of our notice we stated that the situation of the Salmon Rivers of this Province would be accurately given, with descriptions of the pools and their distance from the coast. We have done so partly in this issue, in order that European, American and Canadian lovers of fishing may take advantage of these favorite localities during the season of 1881.

The Editor of the *SPORTSMAN* has had experience on the southern coast of Labrador, therefore, gentlemen wishing to visit the rivers hereinafter mentioned, may rely on *bonâ fide* sport.

SALMON AND TROUT RIVERS AND LAKES OF QUEBEC.

It may be said that in former times salmon visited the greater portion of the Northern rivers entering the St. Lawrence above and below the city of Quebec. Some of these rivers are not now frequented by salmon. It is only of late years, however, that the Jacques Cartier became worthy of being leased for surface fishing. We are informed that under proper management and good guardianship, the pools on this river are prolific with fish that give excellent sport. Years ago, the small river known as the St. Charles, at Quebec, was considered a salmon stream, but none have been in it for seasons gone by. The Editor killed a grilse in the St. Charles, near Lorette, about fifteen years ago. Very large trout (*S. fontinalis*) has been taken by the fly from beneath the falls of Montmorenci. Doubtless, these were forced down the river when small, and having lain in the cool surging pool, the fish became fattened and large.

Salmon enter the St. Anns, but on account of lofty falls, they cannot follow the river to a great distance. This river has been greatly poached in the neighborhood of Bonquet's Bridge.

There are other salmon rivers of minor importance, entering the St. Lawrence below St. Anns, and some of them are pronounced good, but we believe that there has been too much netting of late years [on the coast, and hence the old reliable good score rivers have suffered. This may be considered a mere opinion; however, it will be our object to fully investigate the cause of last season's scarcity of the noble fish. We are anxious to have the opinion of men of old experience.

There are two ways of reaching the salmon rivers between Bersimits and Natashquan. This is done by means of sailing mail packets—one leaving the long wharf at Rimouski on the 1st and 15th of each month, from May to September. The other packet leaves Gaspé Basin on similar dates. The Rimouski

packet calls at Bersimits, Godbout, Trinity Bay, Seven Islands and the Moisie River. The captain charges one dollar per passenger crossing the St. Lawrence, the latter to supply his own provisions during the passage. The Gaspé packet is supposed to call at the west and east ends of the Island of Anticosti alternately—that is to say, one trip to English Harbour on the west end, and the following trip to Fox Bay on the north-east end; thence across to Natashquan, Point Esquimault, Mingan and other rivers on the same coast. The charge for the passage from Gaspé to Anticosti is four dollars, with board.

Now that we have introduced these matters in regard to fishing localities, the continuation of our remarks on the salmon rivers will appear in the February number. In the meantime, we will occupy a portion of our space with a description of the beautiful trout lakes situate north of Montreal.

We will first mention the region of the Upper Assumption River, where numerous lakes abound, containing beautiful rich-flavoured trout. It is difficult to reach the lakes of the Northern Laurentian districts, on account of rugged woodland and rocky surroundings, there being no roads leading from civilization but what are generally used on both sides of the river as Indian paths to the upper waters. With a good guide a series of mountain lakes can be reached in a day's walk from Manning's farm, taking along a canoe or two. Any lake will offer abundant sport. The upper portion of the Assumption river abounds in trout averaging from a quarter to two pounds weight. There is another grand scenic locality which we have visited, where the lakes are alive with large luscious trout; *these are situated on each side of the colonization road leading to the Mattawan*. The Black River runs for several miles along the side of the road and its pools and rapids are teeming with game fish; therefore, as a summer resort for fishing, this region cannot be surpassed. To reach the mountain lakes, it will be necessary

in starting from Montreal to take the steamer "Berthier," from the wharf opposite the Bonsecours Market, to Lanoraie, where a railway carries passengers, &c., to Joliette. At this village a team is necessary to carry the sportsmen and traps to either Manning's farm or Mr. Leprohon's house on the Black River Road, which leads through the trout lake region towards the Mattawan. We will continue this subject in the February number.

WHOLESALE SLAUGHTER OF WILD DUCKS.

Among the various devices resorted to for the destruction of our Wild Fowl, the swivel gun is perhaps the most destructive in its effects. Great numbers of wild ducks are annually slaughtered by its means, and the genuine Sportsman must view with alarm the rapidly decreasing numbers of the birds in the localities where it is used. For the past two or three seasons several American steam yachts, armed with these guns, have been cruising in Lake St. Francis, near Lancaster, Ont., and have apparently done a remunerative business in supplying the American markets with birds. The *modus operandi* is to steam slowly towards the large flocks, or "rafts" of ducks, on their feeding grounds in the lake, and as they are then usually in compact flocks, a great number are secured at a single discharge. As many as 50 to 100 being often bagged at a shot; while, as a matter of course, a great many are wounded, and but few of these are secured, the operations of these pot hunters being conducted on too large a scale to allow of the pursuit of single birds. It is needless to state that this system of shooting has already been productive of a great amount of harm, and if persisted in will spoil to a certain extent the duck shooting on our lakes. We therefore trust, before the advent of another season, the Game Societies of Ontario and Quebec will have taken the matter in hand and devised some means whereby the slaughter

may be prevented, and the rapidly diminishing birds be conserved for the legitimate sportsman.

WALLACE.

OUR JOURNAL

will sustain properly defined Game Laws of the Dominion of Canada. It will also extend a cordial hand of fellowship to all well organized game clubs. We fully trust in its success, and now wish our patrons happiness and prosperity, with plenty of sport during the season of 1881.

IN PROSPECT.

A gentleman lately returned from the Northwest Territories promises to send us some interesting and truthful accounts of the game noticed in the regions through which he passed last summer. We will endeavour to procure it for the February number.

PROVINCE OF QUEBEC.

GAME IN SEASON—JANUARY.

Caribou, Virginian Deer, Moose and the common Hare.

Ruffed and Spruce Grouse, Wild Geese and Ducks.

FISH IN SEASON—JANUARY.

Whitefish, Salmon-Trout, Speckled, Brook or River Trout, (*S. fontinalis*), Bass, Doré, Maskilongé.

NOTE.—Every net licence issued by the Department at Ottawa, states as a condition of the issue, that its use for the capture of Bass, prior to the 1st of July, is prohibited.

A GOOD FIT.

In the selection of a gun, the inexperienced Sportsman is apt to overlook one of the most important features required. For rapid and accurate shooting, it is necessary that the stock of the gun be curved to suit the length of neck of the marksman. To fit properly, the gun, when raised to the shoulder should be almost on a level with the eyes, requiring but a slight

bend in the neck to enable the sportsman to cover the object aimed at. Before the introduction of breech loaders it was a difficult matter to procure a gun with the necessary curve, and even at the present time, the greater number of those manufactured are too straight in the stock to suit the average neck.

The various improvements in the manufacture of guns made during the past few years, leaves little to be desired, and the reputation for excellence of work, achieved by some of the most celebrated makers, leaves little room for criticism. The Sportsman has now no difficulty in procuring a good article; let him be careful in his selection, recognize the importance of a proper fitting gun, and the result will be an increased pleasure in his sport,—a pleasure engendered by success.

WALLACE.

DEATH OF THE EDITOR OF "LAND AND WATER."

The death of Francis Trevelyan Buckland, better known as Frank Buckland—announced from London, has been expected, as he has been in wretched health for some time past. His father, the geologist, Dean of Westminster, a most accomplished man, lost his reason some time before his death. Frank Buckland, who was born in 1826, was a student of Winchester College and afterwards at Christ Church, Oxford. The larger part of his life was given up to the study of the natural sciences, and he was a recognized authority upon the habits and culture of the food fishes. Few men of science were so popular in England. He was a public benefactor through his introduction of new varieties of fish for food and especially through his successful cultivation of salmon and trout. In social life he was one of the most charming of men, despite the fact that his house was really a kind of combination of the Aquarium with the Zoological Gardens, so full was it of birds and beasts and fishes. Whoever loved him loved him perforce, not his dogs only, but his cassowaries and his

crocodiles. The story might have been told of him which was true of Agassiz, that when his wife one morning found in one of her slippers a cold little slimy snake, one of six sent the day before to her scientific spouse, and carefully set aside for safety by him under the bed, and upon the startling discovery started back, crying out in terror, Agassiz! Agassiz! there is a snake in my slipper!" the response of the *savant* was, as he rose suddenly up from his couch: "A snake! Good heavens, *where are the other five?*" At home Frank Buckland sat in a cumbrous old chair which he valued highly because it had once belonged to the famous John Hunter. Its uncomfortable angles were disregarded by him—they were convenient for the monkeys. These small men sat aloft, and were free to pounce down on his proof sheets at will. A retired organ monkey was a great favorite, and shared with the afflicted but always cheerful *savant* the frugal meals to which physicians limited him, tasting everything in turn, even to the claret and water.—*N. Y. World*.

MONTREAL BRANCH OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO.

The seventy-ninth meeting of the above Branch took place on the evening of the 11th inst., at the residence of H. H. Lyman, Esq., "Thornhill," McTavish Street.

An accurate and interesting paper was read by Mr. George H. Bowles, "On the mouth-parts of some carnivorous and wood-eating Beetles," with very excellent illustrations of dissections.

It was moved by Mr. Couper, seconded by Mr. Lyman, "That the paper just read, with the accompanying illustrations, be sent to the *Entomologist* for publication.—*Carried*."

Mr. H. H. Lyman exhibited his very fine collection of Insect Architecture, the only one of the kind in the city.

Mr. Burland, jr., was elected a member.

Natural History.

ORNITHOLOGY OF MOUNT ROYAL.

A ramble over our beautiful Mountain Park, and Cemeteries will well repay students of Ornithology, and Oölogy. The summit is 750 feet above the level of the river, and commands a view of one of the most magnificent landscapes on this continent. The noble river St. Lawrence, is seen for a long distance, and beyond Belœil Mountain rises majestically above the surrounding valley; on the south side, the view is bounded by the long range of mountains in the State of New York.

The writer spent many pleasant days last summer, observing the birds that frequent and breed on Mount Royal, and identified thirty-eight species. Those marked with an asterisk, do not breed on Mount Royal, but are frequently seen there. Several other species were observed, but not having been fully identified, are left out for a future note this coming spring. The following list contains the names of the thirty-eight species identified:—

Robin.....	<i>Turdus Migratorius.</i>
Wood Thrush.....	<i>Turdus Mustelinus.</i>
Catbird.....	<i>Mimus Carolinensis.</i>
Eastern Bluebird.....	<i>Sialia Sialis.</i>
Golden-crested Kinglet*.....	<i>Regulus Satrapa.</i>
Black-capped Chickadee.....	<i>Parus Atricapillus.</i>
Red-bellied Nuthatch.....	<i>Sitta Canadensis.</i>
Brown Creeper.....	<i>Certhia Familiaris.</i>
Winter Wren.....	<i>Anorthura Hyemalis.</i>
Black-and-white Creeper.....	<i>Mniotilta Varia.</i>
Summer Warbler.....	<i>Dendroica Aestiva.</i>
Chestnut-sided Warbler.....	<i>Dendroica Pennsylvanica.</i>
Golden-crowned Thrush.....	<i>Sciurus Aurocapillus.</i>
Redstart.....	<i>Setophaga Ruticilla.</i>
Bank Swallow.....	<i>Cotyle Riparia.</i>
Purple Martin*.....	<i>Progne Purpurea.</i>
Cedar Bird.....	<i>Ampelis Cedrorum.</i>
Great Northern Shrike.....	<i>Collurio Borealis.</i>
American Goldfinch.....	<i>Chrysomitris tristis.</i>
Song Sparrow.....	<i>Melospiza Melodia.</i>
Snowbird.....	<i>Junco Hyemalis.</i>
Chipping Sparrow.....	<i>Spizella Socialis.</i>
English Sparrow.....	<i>Paser Domesticus.</i>
Indigo Bird.....	<i>Cyanospiza Cyanea.</i>
Cowbird.....	<i>Molothrus Ater.</i>
Baltimore Oriole.....	<i>Icterus Baltimore.</i>
Crow Blackbird.....	<i>Quiscalus Purpureus.</i>

Common Crow.....	<i>Corvus Americanus.</i>
Kinzbird.....	<i>Tyrannus Carolinensis.</i>
Phoebe.....	<i>Sayornis Fuscus.</i>
Nighthawk*.....	<i>Chordeiles Virginianus.</i>
Chimney Swift.....	<i>Chaetura Pelagica.</i>
Ruby-throated Hummingbird.....	<i>Trochilus Colubris.</i>
Black-billed Cuckoo.....	<i>Coccyzus Erythrophthalmus.</i>
Downy Woodpecker.....	<i>Picus Pubescens.</i>
Yellow-bellied Woodpecker.....	<i>Sphyrapicus varius.</i>
Golden-winged Woodpecker.....	<i>Colaptes Auratus.</i>
Ruffed Grouse.....	<i>Bonasa Umbellus.</i>

ERNEST D. WINTLE.

Montreal, Jan., 1881.

THE BARRED OWL.

This bird was, last month, abundant in the neighborhood and city of Montreal. We have no recollection of seeing so many near another city in Canada. It is a day owl, and its occurrence in the vicinity of civilization may possibly be on account of the House Sparrows, which have multiplied greatly of late. The latter are easily caught during the winter, and doubtless a nice morsel for the owls. The common haunts of the Barred Owl are dense woods—they are not pelagic—loving the northern forests, but during winter, hunger will force all woodland animals to retreat from their solitudes. The abundance of the House Sparrow has also induced an unusual number of another enemy to remain in our neighborhood. The Shrike or Butcher Bird. Persons who have read the history of this bird can well understand that he would be a greater foe to the Sparrow than the more clumsy owl. Here we see a natural law faithfully carried out in order that each species may be benefited, even as parasites, retaining an equal balance in their sphere.

THE GRAY SEA EAGLE.

A large specimen was shot on the 28th December, at the village of Cowansville, while in the act of carrying off a chicken from a farm yard. This eagle is the *Haliaetus albicilla* of Cuvier, a bird of doubtful specific position at present. Its habits are similar to that of the Bald Eagle. It is the property of J. I. Newport, Esq., of this city.

WOODCOCK IN DECEMBER.

Early on the morning of the 16th December a man captured a woodcock which was running on the ground in the vicinity of Beaver Hall Terrace in this city. This fact would not have been ascertained, were it not for the numerous telegraph wires which surround the streets. During the previous night, the bird, in its southern flight, struck against a wire with force sufficient to take off the skin and feathers, from the front portion of the head, above the base of its beak. Many woodcock are killed in the spring and fall by telegraph wires, as they migrate only at night, and generally fly low. The bird was brought to the SPORTSMAN Office, the man being ignorant as to its name. Having no immediate accommodation for this interesting game bird, we sent it to Mr. Hall's restaurant, on St. James street, where it was living on Christmas eve. It may not be generally known to Sportsmen or Naturalists, that the woodcock has the power to erect about half an inch of the upper mandible, without opening the beak to its base. It appears as if the bird was supplied with a flexor nerve to elevate the tip of the upper mandible. This feature was quite remarkable in the above specimen. It is supposed that these late woodcock have been living in the vicinity of warm springs on the Laurentian Mountains.

REPORT ON NOMENCLATURE.

We have received the Third Annual Book of the Michigan Sportsman's Association for 1880. It contains ninety-seven pages of interesting matter. Considering the fifth Committee Report valuable to Canadian Sportsmen and Naturalists, we publish the first portion in this issue of our journal.

Your Committee on "Nomenclature, both Popular and Scientific," would respectfully report: That uniform and correct names *should* be habitually employed in speaking and writing of the different species of game. On account of the loose way of naming animals

in vogue in this country, many otherwise well-written articles become quite unintelligible. In reading of field sports we are constantly in the position of Mr. A., who was informed by his friend B. that he had just scooped Mr. Johns of a cool \$100 at poker. Mr. Johns being A.'s clergyman, and a very exemplary man, an explanation was demanded, when it was ascertained that it was not Mr. Johns at all that had been relieved of his money, but Jones, the gamester. Such carelessness in the use of names is reprehensible and never necessary. And yet in writing of game, one will give a description of a day with the partridges. As there are two species of birds called by that name, we are left in doubt as to which he means. Another has been shooting elk. Does he mean wapiti, or the true elk, commonly called moose? Another has caught a fine string of pickerel in the clear waters of Niagara river. We doubt the fact and the habitat. On investigation we find he enjoyed the superior sport of taking pike-perch. The same species receive different names in different places, and different species receive the same name. Some kinds are called by names that properly belong to other species, and thus the mixing and muddling goes on. One fish has received nineteen different names within a few hundred miles on the Atlantic coast. Herring are said to be taken in Lake Michigan, when it is known that there is not a herring west of the Niagara river, except such as are brought here dried or pickled. And so we might go on almost indefinitely depicting the ridiculousness of popular nomenclature. But the annoying fact is too well known to require amplification. Nor are we much better off when we turn to scientific classification and nomenclature; for ambitious naturalists are constantly re-arranging both.

What constitutes classification and nomenclature? Accepting the testimony of lexicographers, the first is an arrangement or distribution of groups in classes, orders, families, genera, and species, according to common

relations or affinities: and the second a peculiar system of technical names adopted as descriptive of the first. One, then, must be subservient to the other, yet in intimate relation to it. Again, classification should be an arrangement the most easily adapted to the demands of science, at the same time affording the best means of study and research; in fact, should be the guide-board on the free road of science, instead of (as it too frequently is) the barrier and stumbling block to progress.

Nomenclature, too, is expected to serve the purpose of an aid to the examination and classification of objects in connection with the laws by which they are governed, and as a means of investigating their structure, history, and uses. For this reason Latin or Greek names were adopted as affording uniformity that could not be attained by the use of common or vulgar designations, and as permitting scientists of all nations to meet upon a common ground, irrespective of profuse lingual knowledge. Whether nomenclature is serving such a purpose, or not, we shall see further on.

Embracing so wide a scope as does natural history, objects animate and inanimate, from the awe-inspiring celestial bodies in their multitude, to the most insignificant of earthly microcosms, and details so numerous that to possess a knowledge of the smallest portions is a competent task for a lifetime spent in study and investigation, it is little wonder that errors are both numerous and constant. Yet this affords no excuse for their unremitting multiplication by individuals of less than two score of years who insist on forcing them upon us regardless of scientific truth or progress. They laugh, sneer, and pooh-pooh, the patiently acquired results of old, staid and carefully plodding and reasoning naturalists to scorn; and not satisfied with this, only too frequently resort to abusive epithets and vituperative abuse. For what rights has either age or reason that are not subservient to Young America, when full of egotism, he steps upon the stage?

Our interest as an association is centered

chiefly on those forms of *feræ naturæ* usually denominated game, with, perhaps a minor regard for the fur-bearing species. Individual animals, we feel, demand individual and at the same time appropriate names; names indicative somewhat of their character—such is the true rule of nomenclature and classification. The better to exhibit relationship, individuals are collected into groups that present the greatest number of characteristics in common such being called *genera*. Genera are further collected under the same general rule into *families*; families into *orders*; and orders in turn into *classes*.

Were it possible to arrange all classes in such a manner that the individuals of one genera of an order should be connected more nearly with that order than any other, little would be necessary to render classification both simple and complete. But, unfortunately, it has been found that characters are not sufficiently uniform, and at the same time easily cognizable, to allow the arrangement of all groups of individuals into closely connected families. Aware of this, the great Swedish Naturalist employed one system of organs as the basis of classification. Others have aimed to classify only by the structure of individuals, as a whole, and this latter could it be carried into effect, would seem the most philosophical; it has been found, however, that either system followed exclusively results in heterogeneous combinations. It was like errors that caused the famous controversy between Huxley and Owen a few years since, and which led to the re-classification of mammals. A combination of the two systems is now in vogue as being the least objectionable, and affording the greatest facility in investigating the productions of nature.

The six primary orders of Linnæus are now divided into *vertebrates* and *invertebrates*. Of the former, mammals, birds and fishes alone have special interest for us. Following classification onward, we find mammals divided into classes in accordance with their marked physiological and anatomical peculiarities; and the

reproductive system being the most prominent and permanent in all forms of life, it is justly selected as a basis. UNGULATA, for instance, is recognized as a generic order among animals possessing non-deciduous uteri, and its name further signifies that all of this class have all the toes or digits protected by a case forming or approaching to a hoof. Now, the possession of hoofs, of itself, is not of sufficient evidence on which to base an order; but taken, with the peculiarities of diffused or cotyledonary placentæ, of milk teeth, absence of clavicles and other concomitant anatomical idiosyncracies, it has a firm basis; but people at large are not supposed to be familiar with these, while a hoof or a hoof-like tendency is patent to all—hence the title.

By dividing the order *Ungulata* into two sub-orders, we have, PERISSODACTYLA (odd-toed) and ARTIODACTYLA (even-toed), and approach a step nearer the desired result. The former is further recognized by the possession of not less than twenty-two (22) dorso-lumbar vertebæ, a simple stomach, large cæcum, udders in the groin or inguinal region; and when horns are present, as being entirely epidermal and devoid of bony core, and placed in the centre of the skull; there are also other minor characteristics too numerous for mention in this connection. This order embraces the *Equidæ*, or horse family. *Rhinocerotidæ*, or rhinoceros family, and *Tapiridæ* or tapirs.

The ARTIODACTYLA, or even-toed, has two sub-orders, the *Rumantia*, or those provided with compound stomachs, and the *Non-Rumantia*. The former have but one pair of incisor teeth in the upper jaw of the adult, and those the outermost; canine teeth may, or may not be present above, they almost always exist below and are frequently so approximated and inclined forward as to be mistaken for true incisors, which they closely resemble in form; the third and fourth digits are consolidated into one, vulgarly known as the "cannon-bone," and there is an extra metatarsal or ankle-bone, appearing as if the detached distal end of the

fibula; the stomach is compound—"all chewing the cud"—with not less than three more, commonly four, divisions. Of this sub-order we hold the sheep, deer, or ox as a type.

While *Rumantia* might very properly be held as a family instead of sub-order, for convenience sake, and greater ease of approximation, it is divided into the families of *Tragulidæ*, *Cotylophera* and *Camelidæ*, the former with the false musk deer as a type, the second with deer, antelope, and oxen, and the last embracing camels, llamas, etc.

In turn, *Cotylophera* may be divided into sub-families as *Bovidæ*, *Cervidæ*, etc., though the anatomical differences are not sufficient to absolutely warrant it; to prevent confusion, however, it is perhaps better so. Next we have the genera *Cervus*, *Bos*, *Ovis*, *Antilocapra*, etc.

As classification now prevails, we have an order, *Rumantia*, embracing families of *Cervidæ*, and *Cavicornæ*, etc. The latter is usually again divided into sub-families of *Ovinæ*, *Bovinæ*, *Aplocerinæ*, etc., and the former given the sub-family of *Cervinæ*. The *Cervinæ* embrace the following genera: *Alces* (elk or moose), *Rangifer* (reindeer or caribou), *Cervis*, (wapiti or stag), and *Cariacus* (Virginia, black-tailed, mule deer, etc. The characteristics of the family *Cervidæ* are given as "Incisors, $\frac{0}{8}$; canines, $\frac{1-1}{0-0}$, or wanting; molars, $\frac{6-6}{6-6}$; antlers solid, deciduous not encased by horns, sometimes wanting. Foot bifid."

Sub-family, *Cervinæ*—"Horns solid, always present in males, sometimes in females, not covered with skin; foot bifid, with two small hoofs behind and above the large ones."

Genus *Alces*—"Horns in male only, broadly palmated at tip; nose broad, hairy except small spot between nostrils."

Rangifer—"Horns in both sexes, broadly palmated at tip; nose hairy."

Cervus—"Horns on male only, rarely sub-palmate, curved backward, snags forward, one immediately above the burr; tail short; hoofs broad and rounded."

To be Continued.

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ROCKVILLE, CONN.

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THE
CANADIAN SPORTSMAN
AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, FEBRUARY 13, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 2.

MONTREAL, FEBRUARY 15th, 1881.

Vol. I.

ANSWER TO CORRESPONDENT.

R. B. S., GRAVENHURST, O.—All the North American deer are supposed to be described. You will find correct information from the Game Nomenclature which we are publishing. The deer you mention may be forms of Caribou or monstrosities. Send us drawings of the horns, which may lead to a determination.

SALMON AND SEA TROUT RIVERS OF QUEBEC.

Passing onward from point to point on the north shore of the St. Lawrence, where *Salmo salar* occur annually, we will, in this instance, make a few remarks on additional localities where the noble fish is taken sometimes abundantly in nets, but scarce in rivers in the immediate vicinity. Omitting the St. Marguerite, Mr. Price's river, a tributary of the Saguenay, which is well known to Canadian and American anglers, we will glance at a narrow river entering the Bay of Esquimaux. A few salmon visit this river. There is a saw-mill near its entrance, and the bay has no depth at low tide. At one time it was considered dangerous for schooners to enter it on account of large boulders, but of late they have been removed by the Government, and it is now a fair harbour for small craft in bad weather. A few hours sail further down, the angler reaches Baie Mille Vaches, a long stretch of sand beach, near the east end of which the Portneuf River enters the St. Lawrence. Although the latter river is only deep for a short distance, it has one pool where salmon and sea trout visit. A saw-mill was in operation at one time above the pool, but the timber is exhausted, and it may now be made a permanent salmon river, by removing the dam to allow the fish to go up to spawn. Near this river, there is a good sea trout fishing place,

called Sault-au-Mouton, where excellent sport may be had in June and July. Now, to reach this place, it will be necessary to take the train from Point Levi to either Riviere-du-Loup or any station between the latter station and Bic. Then hire a boat with a pilot or guide to cross the St. Lawrence. Make for Portneuf River, put up camp, enjoy the scenery, prepare for fishing, sand-flies and mosquitoes.

TROUT RIVERS AND LAKES OF QUEBEC.

The best trout stream north of Montreal is called the Black River. It takes its source from a Lake called *Lac a la Croix*, about ten miles from Mr. Leprohon's house, at the commencement of the colonization road leading to the Mattawan. It is not expensive to reach this gentleman's residence, where accommodation and supplies can be obtained. The river is a day's ride from the village of Joliette. It consists of a series of pools and lakes from the entrance into the Laurentian Mountains, until *Lac Sauvage* is reached, the latter lake being near its source. The following is the Editor's score of Brook Trout taken on the Black River. The fish averaging from a quarter to a half-pound each:—

June 15th, forenoon,	36 lbs.
afternoon,	20
" 16th, forenoon,	22 lbs. Rod broken.
afternoon,	35 lbs.
" 17th, forenoon,	20 lbs.
afternoon,	10 lbs.
" 19th, forenoon,	30 lbs.
afternoon,	25 lbs.—198 lbs.

Several miles of the river can be fished from its banks, and parts of it may be waded. The upper portions are composed of a series of lakes or ponds all of which teem with silver-scaled trout, but it is necessary to have a canoe or raft to fish from, therefore, it would be well to take an axe and auger; with these a raft can be put together in a short time, as there is plenty of dry wood accessible. Any kind of

artificial fly will answer on the Black River; the hooks need not be larger than No. 5 or 6, and two flies will suffice on a cast. Parties wishing to visit this mountain lake region to camp in June or July will have to take warm clothing, as the nights are generally cold. A description of the lakes and streams springing from the rocky mountains of the Assomption and Black River is new to sportsmen. Both of these rivers drain the great Laurentian lakes north of Montreal. Many gentlemen who spend their holidays in pleasure of this nature, never heard of this grand mountain camping-ground. They generally visit the seaside, where, in many places, good brook trout fishing can not easily be obtained. Sometimes they have to go as far from the coast to brooks and lakes, as it is from Montreal to the Black River.

Entomology.

THE MILK PLANT.

WHY ARE ITS INSECT PARASITES RED AND BLACK IN COLOUR?—BY THE EDITOR.

Mimicry is remarkable in species belonging to almost all Orders of Insects. It is also well defined in some of the reptiles, in the flower-frequenting spiders, and some species of Lepidoptera. With the exception of the common Tree Frog, (*Hyla versicolor*), which has the power of imitating the bark color of the tree it rests on; the spiders belonging to the Genus *Thomisidae*, the bodies of which are imitative of the colors of the flowers in which they hide, little is known of the cause of certain insects that are parasites on plants, and which retain colors almost similar to each other. That the provision of the reptile and spider with this power of mimicry is in order to secure their food, is considered a strategy of nature. The tree frog is an arboreal animal, which can change its color to suit almost any place. The spider, in like manner lies like a wolf imbedded in the flower, preferring, in the neighborhood of Montreal, either white or pink and white,

wherein, with its fore feet erect, it is ready to pounce on any unlucky insect coming within its reach. These instances are understood by the watchful student of nature. What is wished to be inquired into, is the cause of a number of insects occurring evidently as parasites on a single plant, and all the insects having a predominating color, either red or black. This study is certainly interesting, and it has led to these remarks, from the fact that the occurrence have frequently been noticed on the common Milk Weed (*Asclepias*). Why are *all*, and there are quite a number of insects of different Orders, which frequent or feed on the plant during summer, red and black, or entirely red in color? A coleopterous insect (*Tetraopes tetraophthalmus*) is totally red above, with black elytral spots. Another coleopterous beetle, *Labidomera trimaculata*; elytra, red and black. The two latter feed on the plant. An insect of the order Hemiptera, occurs common on the Milk Plant in June. It is blood red in its early stages; indeed on several occasions last year, the above beetles and their larvæ in company with the red Hemipterous bug crowded the plant, and the contrast between the downy green leaves blending with the red and black colours of the insects was what led to this inquiry. Every entomologist knows the butterfly (*Danaïs archippus*), also red and black, in the imago form, whose caterpillar feeds on the Milk Plant. There are doubtless other parasitic insects which may have been overlooked. When the plant is in flower, it is an excellent one for the entomologist to visit—even at night it attracts a few rare moths. Lastly, it may here be remarked, that a Dipterous, or two-winged fly (*Tachina*)—having a red body, covered with hair, is fond of sucking the flowers in daytime. There are some profound inquiries to be made in relation to the above insects and their connection in regard to color, with the plant as food. The larvæ of the archippus butterfly has no red colour, but the imago has it abundantly. In the transformation of *L. trimaculata*, its lar-

væ has no red. The imago *Tetraopes* is found on the Milk Plant, and its larvæ is said to feed on it. The history of the red Hemipter is well worthy of investigation. In an article, written by me in the *Canadian Entomologist*, some time ago, relative to the food of insects as influencing their colors, am still of opinion that by careful study chemically, of those that feed on the Milk Plant, much of what was then contended for, may prove correct. This is written with a view to induce some of my many entomological friends to look further into the matter. Our columns are open to intelligent thoughts on the subject.

SALT SPRINGS IN LAKE ONTARIO.

In a correspondence which the Editor of this journal has had last August in the *Forest and Stream*, in regard to a salmon called *S. Wilmoti*, a Mr. B. of Grand Falls, New Brunswick, states, that "many reflecting persons" are "of opinion that they, (the salmon) frequent salt springs within Lake Ontario. Can any of our readers give us information regarding this statement? We are anxious to know where *Salmo Salar* goes to when liberated from where it was bred in the hatchery at Newcastle. B. informs us that "this point, however, it is hoped, will be shortly cleared up, as it is expected that facilities for close observation of the habits of these fish will be afforded by the Government. We will watch and see if these observations are made.

ŒOLOGICAL COLLECTION.

Many persons who visited the late Montreal Industrial Exhibition, must have noticed two large show cases which contained a collection of the eggs and nests of North American birds. It was, indeed, one of the most interesting exhibits in the building. Few people are aware of the extraordinary care, labour and expense which the accumulation of a collection of this nature involves. It is the property of a gentleman who has been studying North American

Oology, for years past. He is still adding to it, and doubtless in a few more years, the greater portion of the species inhabiting temperate America, may be obtained. There is more in the study than can be seen at first sight. The classification of our birds is specifically difficult in certain groups, and it is thought a more natural affinity may be attained by a comparison of embryonic form and colour. This is the case with many species, such as Sparrows, Buntings and Finches, whose egg markings, in many instances, blend so similar that it is difficult to separate them, although the birds belong to distinct genera. The same may be said in regard to the warblers which are at present in a mixed condition as to classification.

RUFFLED GROUSE SHOOTING.

The Snipe and Woodcock are generally supposed to be the most difficult of all our game birds to shoot, and the sportsman who can bag his four out of five of these birds usually considers himself able to knock over anything that flies. It requires, however, only a day's sport with the Ruffled Grouse to convince him that he has over-estimated his prowess. Frequenting dense covers, and underwood, rising swiftly with a whirr of wings that sometimes startles the most experienced hunter, hard to hit, hard to kill, it is not to be wondered at that only the most enthusiastic sportsman should take pleasure in their pursuit. To the true lover of sport, however, there is no shooting more exciting, his pleasure is enhanced by the difficulty attending it; and, if after a day's hard tramp, he has succeeded in bagging a few brace, he thinks not of the fatigue which he has undergone, or the miles he has travelled; his endurance and skill have secured their reward; and as he throws down his bag containing the spoils of the chase, a happy smile proclaims the enjoyment of his sport; the pleasure of return with a well-filled bag.

WALLACE.

THE BLACK SQUIRREL.

A black squirrel, in excellent condition, was shot on the farm of J. A. Simpson, Esq., Coteau, on the 13th January. It is said that this animal has not been seen in the neighborhood of the Coteau for years past. Another specimen, the gray variety, was shot on the 6th concession, Roxton Falls, on the 10th of January, by J. I. Newport, Esq., of this city. Although it leaves its hiding place on fine winter days in Western Canada, it is not fond of cold, and it seems strange that it should be abroad when the thermometer was so low.

PROPER NAMES.

"*Capture*.—M. Fraser a attrapé hier une magnifique poule de prairies, sur la côte du Beaver Hall. Il est très rare de voir cet oiseau au Canada à cette saison de l'année. Il disparaît généralement vers le 20 novembre."

The above is from *Le Nouveau Monde*. The bird referred to is the Woodcock, the capture of which we noticed to in our January number. The Prairie Hen (*Cupidonia Cupido*) is a Grouse, and does not occur in this Province.

PROVINCE OF QUEBEC.

GAME IN SEASON—FEBRUARY.

Ruffed and Spruce Grouse; Ptarmigan; Wild Geese and Wild Ducks.

FISH IN SEASON—FEBRUARY.

Whitefish, Salmon, Trout, Lake Trout, Brook Trout, Bass, Doré, Maskilongé.

CANADIAN FISHERY LEASES.

A numerous signed petition by the inhabitants residing on the banks of the Rivers Restigouche and Metapedia has been presented to the Minister of Fisheries through Mr Beauchesne, M.P. for Bonaventure. The petition sets forth that at Confederation, the Federal Government assumed the right of leasing the inland rivers for angling. This assumption on the part of the Government, carrying with it many hardships to be borne by the settlers,

has been declared by the Courts of Justice to be illegal; the inhabitants therefore petition the Government not to renew the leases which have expired with 1880, nor to issue new ones. They point out that they have waited patiently for justice at the hands of the Department of Fisheries: at the same time they insist on their legal rights and refuse to acknowledge (as the law is at present) the leases granted by the Federal Government.

BUCKLAND'S MUSEUM.

The late Mr. Francis T. Buckland, Editor of *Land and Water*, has bequeathed his valuable Museum of Economic Fish Culture to England, and on the decease of Mrs. Buckland, a sum of £5,000 will revert to the nation to be applied for the purpose of founding a Professorship of Economic Pisciculture in connection with the Buckland Museum, and the Science and Art Department at South Kensington, London.

FISH AND GAME PROTECTION CLUB
FOR THE PROVINCE OF QUEBEC.

This Club held their annual meeting on Saturday, January 15, R. H. Kilby, Esq., President.

The following report was read by the Acting Secretary, J. H. Mathews, Esq.:

In March and April several seizures of game were made and the offenders fined; the large quantity of game thus confiscated (over a ton weight) was distributed among the charitable institutions of the city. Seizures were also made from three other parties. Through information given by the Club a great number of nets were confiscated during the past summer, principally round Vaudreuil, where no less than 17 were captured. During the last session of the Quebec Parliament, your Committee, in co-operation with the Sherbrooke Club, made a vigorous attempt to have the present Game Law so amended as to do away with the spring shooting of ducks and other wild fowl which come to breed on our rivers and lakes, and a committee was named, consisting of Judge Coursol, M.P., E. Monk and R. Stephens, to proceed to Quebec to watch our interests. Unfortunately, the amendment was not brought up until the last day of the session, when most

of the members supporting it had left, consequently the matter will have to be brought up again this year. At a meeting held November 24th, it was decided to get up a case as to snaring partridge, and at the next meeting the acting secretary stated that a case had been brought before the Police Magistrate, but that it had been dismissed, as his Honor considered there was some doubt as to the accused being able to tell whether the partridge had been snared or not. Your committee would here draw the attention of the incoming committee to the fact that over two-thirds of the partridge offered for sale in this city are taken by snares, many of them being decapitated to prevent detection. Mr. Euclid Roy, advocate, was thanked for his gratuitous service.

The Treasurer, Mr. W. H. Rintoul, then read his report, which shows that the Society is in a more prosperous state than it has been in for several years. The income for the past year was \$262, and the expenditure \$244.61, showing a surplus of income over expenditure of \$17.39.

The Club numbers 120 members.

The following are the officers for the ensuing year:—

J. C. Wilson, Esq., President; E. C. Monk, Esq., Vice-President; W. H. Rintoul, Esq., Treasurer; J. H. Mathews, Esq., Secretary.

Committee.—R. H. Kilby, Esq., H. R. Ives, Esq., J. H. Stearns, Esq., R. A. Alloway, Esq., Geo. U. Ahern, Esq., J. J. Redpath, Esq., T. J. Brady, Esq., E. B. Goodacre, Esq., T. W. Goodwin, Esq., A. N. Shewan, Esq., J. Johnston, jr., Esq., L. A. Boyer, Esq., J. B. A. Mongenais, Esq., T. R. Hall, Esq., J. B. Robertson, Esq.

CORRESPONDENCE.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST.

DEAR SIR,—On my arrival in Montreal a few days ago, I was delighted to see that you and a few other enthusiastic sportsmen had decided to supply a want long felt in Canada, viz: a paper devoted to the interests of that class of gentlemen who shoot and fish for true sport, and I feel sure that success will attend your efforts.

I must say I felt flattered when I received your request to contribute something, and only wish I had your facile pen to interest your readers. My summer of 1880 was spent in the N. W. T. of the Dominion. The 20th July last found me in the Duck or Riding Mountains, at the head waters of Bird's Tail Creek, about 51° N., and on the 101st meridian.

These mountains are covered with a dense forest of tall poplars and birch, and thick underbrush of hazel and raspberry, making it impossible to get through without cutting a trail in advance.—This 20th July was a very hot day. We had started at 6 a.m. with a train of thirteen heavily loaded carts, and by 11 a.m. had made about three miles, when a very peculiar noise saluted our ears. Knowing this forest to be full of bears, we at once came to the conclusion that we were in the vicinity of a family; sisters, cousins and aunts, of these affectionate creatures. The train was ordered to halt while the chief of the party and myself went forward to prospect. As we advanced the noise grew louder and louder, till we called a council of two, to decide what had better be done; face the enemy or draw on our reserves and advance in full force. While deliberating the chief happened to cast his eyes heavenwards and the mystery was explained—we had struck a heronry—hundreds of these birds were passing to and fro, and on going forward a hundred yards or so, we found the tops of the poplars covered with their nests, the young birds full grown but not able to fly, perched on the highest branches of the trees. Here in the heart of a dense forest, probably never trodden by man before, were thousands of nests of our common blue heron (*Ardea herodias* Linn). We cut down several trees and captured the young, which were cooked and eaten by some of our men with relish, probably because it was the first fresh food for three months. The nests were made of the small dead branches of the poplar and were placed as near the tops of the trees as possible. I kept two of the young birds alive for a few days, when becoming able to fly they took their departure. These mountains are full of small ponds and bottomless muskegs which swarm with lizards and small fish on which the herons feed, and on getting to an open space near the heronry we could see the old birds coming and going in every direction. Those coming home were stuffed to the bill with food for their young, making them present a very ungainly figure, as they lazily flapped their way toward the woods. On pushing our way through this mountain forest we discovered three good sized lakes about one half a mile wide and from one to two miles in length each. We tried them for fish, but only caught a few common chub. In your next issue I will try and give you some account of the game birds of the Little Saskatchewan and Bird's Tail Creek Regions.

Yours truly,

BIRD'S TAIL.

Montreal, Jan. 31, 1881.

THE GREAT NORTHERN SHRIKE, &c.

SIR,—With reference to an article that appears in your primary number, page 5, I beg to say that a male Shrike, (*Collyrio borealis*) was shot in a private garden in this town on the 14th of the current month. It had probably been attracted by the numerous English sparrows that now infest our streets, several of which it had killed before it was killed itself. For these sparrows, however, notwithstanding old country associations, I entertain no friendly feeling, inasmuch as they drive away our own native birds, Blue Birds, &c. And yet one cannot but admire their indomitable pluck. No severity of weather daunts them. During the exceptionally cold winter we are experiencing, with the thermometer indicating 18° below 0, and on some days with the mercury never reaching zero, they hop about with as much liveliness and self conceit as if they were "at home." Some other importations of *Fauna* and *Flora* into the Colonies from England are anything but desirable, e.g. the Rabbit in Australia, and the Scotch Thistle in America. A fine specimen of the Long-tailed duck, (*Heralda glacialis*), was shot on one of our back lakes last November.

VINCENT CLEMENTI.

Peterboro', Jan. 22, 1881.

The Long-tailed Duck occur abundantly in the Niagara River and Lake Ontario in winter and spring, in fact, it is the most common wild duck frequenting the Canadian Lakes. It is a pretty duck, but not at all palatable, for it is neither "fish, flesh nor good red-herring, although partaking largely of the nature of all these, being exclusively a fish-feeder."—ED.

SWIVEL OR PUNT GUNS.

SIR,—I am glad to observe that a correspondent over the signature "Wallace," in your first number directs attention to the "wholesale destruction of wild ducks on Lake St. Francis, by American pot-hunters by means of swivel guns." Such guns, or rather their use, for the purpose of killing wild fowl, is contrary to law in the Province of Ontario, and any person using them to kill game subjects himself to the penalty of twenty-five dollars for each offence. There surely must be sportsmen of the legitimate class living in the neighborhood of Lake St. Francis, who will take some interest in preventing such a flagrant breach of the

Game Act. We have no objections to see our brother sportsmen from across the border, whenever they chose to come to Canada, to enjoy themselves; but pot-hunters who kill for the market are always objectionable; and if they cannot, as they ought, be prevented from killing game, they should at least be compelled to do so according to law. I hope that no such illegal and unsportsmanlike modes of killing ducks, by swivel or punt guns of any kind will be allowed during the coming season.

Yours truly,

HAMMERLESS GREENER.

Ottawa, Jan. 27, 1881.

THE REDPATH MUSEUM.

The building to be hereafter known as the Peter Redpath Museum, in connection with McGill University, we are pleased to state, is progressing, and after the removal of the Geological Survey's Cabinets, the citizens of Montreal may have one good collection to refer to. The present room is too small to contain the yearly increasing material, which is either purchased or donated to the University. Dr. Dawson deserves the thanks of the public for his efforts in procuring the specimens and advancing the this educational department.

MONTREAL BRANCH ENTOMOLOGICAL SOCIETY.

The eightieth meeting of this Branch of the Entomological Society of Ontario, was held on the 8th inst., at the residence of the Secretary, Mr. G. H. Bowles. Mr. Caulfield read a paper on the Coleoptera of the Island of Montreal. A number of insect dissections were also examined by the microscope.

A successful reunion of the Fish and Game Protection Club, of the Province of Quebec, was held at the St. Lawrence Hall, on the evening of the 20th January. The *menu*, very properly, was largely composed of fish and game, and was served in a manner highly creditable to Mr. Hogan, the proprietor of the Hall.

OUR GAME.

REPORT ON NOMENCLATURE.—*Continued.*

Cariacus—"Horns smaller, curving forward, the first spur short, curving upward; tail long; hoofs rather elongate; size smaller."

Now, in all conscience, what earthly object is achieved in all this but a general muddle? A sub-family is erected on the ground that certain forms have deciduous horns, or that they may want these ornaments, forgetting also that the so-called non-deciduous horns are deciduous at some time of their existence. This is certainly factitious, so we may discard the sub-family *Cervinae*, and thereby benefit true science.

Now, look at the genera: *Alces* and *Rangifer* are separated namely on the ground of a few hairs at the tip of the nose, which are by no means constant, and the possession of horns by the females of the latter. To follow the rule, the females might constitute a genera by themselves, as their horns are rarely palmate. Again, the presence or absence of horns is by no means a generic characteristic, scarcely even a specific one, as it is now known that there is a tendency among all these genera to horns in the female. *Cervus* and *Rangifer* are separated on the grounds of want of marked palmation in the former, and absence of antlers in the female sex. *Cariacus* is divided on the basis of a rather more elongated hoof, the angle of curvature in the antlers, and—horror of horrors—a faint difference in tail.

Now, gentlemen, here is not evidence sufficient to found a genera, though of undoubted value in the distinction of species. Formerly, great stress was laid upon the supposed fact that the young of the moose and caribou never exhibited the spotted coat, but the falsity of this has been shown by the researches of Capt. Campbell Hardy. This leaves no ground whatever for the puerile classification and nomenclature exhibited, and we may with propriety return to *Cervus* as the generic title of all our deer; there is no mistaking *Cervus Alces* for the elk or moose deer, *Cervus Rangifer* for the reindeer, *Cervus Canadensis* for the

wapiti, and *Cervus Virginianus* for our common species. Judge Caton has already recognized this fact, and took the initiative in his work on the "Antelope and Deer of North America."

Even to erect a new species is a grave mistake if it naturally coincides with any other. We have at present *Cervus (Cariacus) Cucurus* and *Cervus Mexicana*, which are but the common Virginia species slightly modified by range, climate, differences in food, etc. It is a well known rule of classification, but little recognized by the pseudo-scientists of the day—that to give birth to a new species—letting alone genera—it is necessary that characteristics should be observed that are prominent, constant and uniform in every individual, and wanting in all other individuals of the same class, and that cannot by any possibility be attributed to variation in habitat, food, climatic causes, etc. Let this, then, obtain with us as a body and as individuals.

Of birds, the same may be said in a general way as of mammals. But this report is already too long to admit of reviewing their classification as thoroughly as has just been done, following step by step down to well-known objects; such would be taxing an already over-taxed patience. Let us commence at once, therefore, with our grouse.

Under our present absurd method of classification and nomenclature, America possesses no less than six genera of grouse, exclusive of the ptarmigan. These genera are divided into twelve species, or six species and six varieties of species, viz: the spruce grouse and Franklin variety of the same, the dusky grouse, and a darker variety, the pinnated grouse and a variety, two forms of sharp tail, one sage, and three ruffed grouse.

The following table exhibits the different genera and the characteristics on which each is supposed to be based; the genus *Dendragapus* has been denied by one author, and relegated to *canace*, as he evidently felt that its discoverer was poaching on his preserves, but its existence is equally valid with those at present accepted.

GENERA AND CHARACTERISTICS OF AMERICAN GROUSE.

FEATURES.	GENUS.	GENUS.	GENUS.	GENUS.	GENUS.	GENUS.	GENUS.	GENUS.
	TETRAO.	CANACI.	DENDRAGAPUS.	CUPIDONIA.	PEDICETES.	CENTROCERCUS.	BONASA.	
TAIL.....	18 feathers; 2-3 length of wing.	16 feathers; about equal to wing in length.	20 feathers; 2-3 length of wing; sometimes more.	18 feathers; one-half length of wing.	18 feathers; one-half length of wing.	20 feathers; about equal to wing in length.	18 feathers; about equal to wing in length.	
TARSUS.....	Feathered to the toes.	Do.	Do.	Do.	Do.	Do	Feathered about $\frac{1}{2}$ their length, with hexagonal scales anteriorly.	
TOES.....	Middle and claw longer than tarsus.	Middle, and claw as long or longer than tarsus.	Do.	Middle toe and claw longer than tarsus	Do.	Do.	Do.	
HEAD.....	Indications of crest; pectinated processes over the eyes.	No crest; pectinated processes over the eyes.	No positive crest; pectinated processes over the eyes.	No positive crest, though sometimes apparent. Pectinated processes over the eyes.	Faint indications of crest. Pectinated processes over the eyes.	No positive crest; pectinated processes over the eyes.	Slight crest; no pectinated processes over eyes, being replaced by a row of short, stiff feathers.	
NECK.....	No unusual feathers on neck, nor true gular sac.	No unusual feathers on neck. No gular sacs.	Gular sacs present.	Plumes on neck; gular sacs present.	Slight indications of elongated feathers on neck. No gular sacs.	Stiffened feathers on neck; gular sacs present.	Plumes on neck forming a ruff; gular sacs wanting.	
BILL.....	Lengthened.	Slender.	Medium.	Medium.	Slightly stouter than cupidonia, yet difference not always appreciable.	Lengthened. Resembles tetrao.	Medium.	
Indications wanting in all other genera.....	None.	Two less feathers in tail.	None.	None.	None.	None.	Stiffened feathers instead of pectinated processes over eyes. Well developed ruff.	

(To be continued).

THE CANADIAN SPORTSMAN AND NATURALIST

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OPINIONS OF THE PRESS.

THE CANADIAN SPORTSMAN AND NATURALIST;
William Couper, Editor.

We greet the appearance of this beautiful little periodical, the typographical appearance of which reflects the highest credit upon the printer, J. Theo. Robinson. It is devoted to all subjects of sport and natural history, and if there is a possibility of its being able to keep up to the standard set down in the excellent programme, it will fill a mission of the highest utility. We take the liveliest interest in all ventures of this kind. The more publications of a special character that Canada produces the better for the country, and the more cause there is to be proud of her. We sincerely hope that the present publication will succeed; especially as it is confided to such good hands as those of Messrs. Couper, Dunlop and Wintle. The first number is really attractive, both typographically and editorially, several of the subjects being treated in the most interesting manner. The subscription price is only one dollar a year, which is ridiculously low, and at those rates the circulation should rise to the living standard of at least 10,000.—*Montreal Gazette*.

THE CANADIAN SPORTSMAN AND NATURALIST.
—We have to acknowledge receipt of this meritorious Monthly Magazine; it is scarcely possible to over-rate the usefulness of such a work in our community, where everything takes a high pressure shape; few have leisure to cultivate such taste as that to which the Magazine is devoted. A tabulated list of the Ornithology of our mountain by Mr. E. D. Wintle is extremely interesting and valuable. The widening of the circle, so as to include the "Sportsman," is a good idea, and one calculated to strengthen the work. It is alike creditable to editors and printer, and we sincerely wish success to this new venture.—*Montreal Herald*.

THE CANADIAN SPORTSMAN AND NATURALIST.
—This journal is most neatly printed in pamphlet form. It will devote itself to information regarding sporting and Natural history. One of its first articles on "Salmon and Trout Rivers and Lakes of Quebec, will be found most interesting. The journal will uphold well-defined game laws. One writer gives the names of thirty-eight species of birds he has seen on Mount Royal. We wish the new journal the success it merits.—*Montreal Daily Star*.

THE CANADIAN SPORTSMAN AND NATURALIST is the title of a handsome little monthly journal published in this city. It contains a great deal of information in a condensed form, and its typographical appearance is an irresistible invitation to peruse its pages.—*Montreal Post*.

THE CANADIAN SPORTSMAN AND NATURALIST.
—A neatly printed journal is sent us from Montreal under the above heading. It contains the study of birds, insects, fishes, &c., and deals with a variety of subjects of interest for the sportsman and angler. We hail with pleasure the new comer in his jaunty dress and wish him long life and numerous subscriptions. It issues monthly at the very low price of \$1. per annum.—*Quebec Chronicle*.

THE CANADIAN SPORTSMAN AND NATURALIST is the title of a little journal to be issued monthly in this city and to be devoted to matters of sport and natural history, and the protection of game. It promises to be a very useful work, and the first number contains some very interesting articles.—*Montreal Witness*.

THE CANADIAN SPORTSMAN AND NATURALIST is the title of a very neatly printed and readable monthly journal just started in Montreal. We are sure it will be favorably received by all lovers of field sports. Hitherto sportsmen have had no organ exclusively devoted to their interest. This want will be no longer felt.—*Sherbrooke Gazette*.

THE CANADIAN SPORTSMAN is a new effort of somewhat unpretentious form; if properly conducted it will be the means of imparting a great deal of information to tyros concerning the game, &c., of Canada. Hitherto but little interest has been taken by the public as regards the preservation of game and this new little journal will doubtless excite some interest in the matter; it is edited by Mr. Wm. Couper, than whom few are better qualified to speak with knowledge. We trust that it will be appreciated and receive a deserved support.—*Canadian Spectator*.

CANADIAN SPORTSMAN AND NATURALIST.—Il nous fait plaisir d'avoir à signaler l'apparition à Montréal, en langue anglaise, d'une publication mensuelle, à peu près dans le un genre de la nôtre. M. Couper, le rédacteur en chef, est naturaliste distingué. Longue vie au nouveau confrère.—*Le Naturaliste Canadien*.

THE
CANADIAN SPORTSMAN
AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, MARCH 15, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 3.

MONTREAL, MARCH 15th, 1881.

VOL. I.

THE BEAUTIFUL GODBOUT.

The river known by this name enters the sea on the north shore of the Lower St. Lawrence, almost opposite Metis. We have had the pleasure of making two visits to it. Godbout Bay, like many other localities on that coast—where some good clear-water rivers flow into the sea—is, terrestrially speaking, composed of sand, mixed with decayed vegetable substances, which make excellent soil for the inhabitants to produce potatoes, &c. Indeed, Mr. N. A. Comeau, the resident guardian, has cultivated a good garden behind his residence. The river has always had the reputation of being good for salmon. On it, in 1875, the latter gentleman, in surface fishing, made the largest score of salmon ever killed by a single man in the world. This has already appeared in *Forest and Stream*, we, nevertheless, give it here, as some of our readers may not have seen it. It is too good to be lost:—

COMEAU'S Salmon score on the Godbout:

Date.	Fish.	Weight.
July 8.....	7	80
" 9.....	57	634
" 10.....	25	282
" 11.....	34	361
" 13.....	40	428
" 14.....	25	253
" 15.....	16	172
" 16.....	37	394
" 17.....	16	186
" 18.....	28	286
" 20.....	27	273
" 21.....	13	124
" 22.....	20	198
" 23.....	6	63
" 24.....	3	30
" 27.....	3	33
" 28.....	2	19
" 31.....	1	26
	360	3842
Grilse.....	5	19
	365	3861

Nature has formed the rocky portion of the Godbout to allow its waters to fall gradually in some places, making excellent salmon rests, which are easily reached by an expert angler. A nervous man may, however, avoid approaching these lodges, from fear of falling into the rapid stream. But these places are familiar to the gentlemen who of late years fish the river. Each pool has its name, and several of the difficult places are now reached by means of platforms, which are annually fixed by the guardian. Allan Gilmour, Esq., of Ottawa, is the leasee of this river. In order to improve it, he, with excellent foresight, purchased the land on each side as far as the upper pool. He is thus secured against encroachment or poaching. A short distance up, on the left side, stands the pretty building called the "Camp," where the anglers reside during the season. It has several comfortable bedrooms, and a dining-room; the kitchen and other out-houses are adjacent. Mr. Gilmour has evidently expended a large amount of money on the improvement of this river. There are shaded paths leading to the pools, and where the river has to be crossed, a contrivance consisting of two boats on a sliding rope, is always at hand. In narrow passages in the pathway, iron railings are fixed into the rock on the river side, to prevent persons from tumbling into it. In several places along the path, pure spring water trickles from the rock. At each of these springs, a glass or tin mug is placed for the accommodation of the angler when passing by. This river was the favorite summer resort of the late Rev Dr. Adamson, who was extremely fond of fishing. The little cabin which for many seasons was occupied by the reverend gentleman, still stands near Mr. Gilmour's "Camp," and by order of the latter, it is annually repaired, in commemoration of the angler.

Like all good salmon rivers, the tidal portion of the Godbout contain abundance of sea trout, many of large size. Indeed, it is well worth an angler's trouble to visit this locality for this sport alone. Mr. Comeau's house is comfortable, and one can enjoy a fortnight's recreation there to his heart's content. Godbout may be reached by sailing packet from Rimouski, on the 1st and 15th of June or July. The steamer "Beaver," which sails from Quebec, will take passengers who can land at the river.

FISH AND GAME CLUB BE VIGILANT.

In *Forest and Stream* of March 3rd, Mr. S. W. Goodridge, of Grafton, Vt., says:—"We have lots of trout (*Salmo fontinalis*) here which come from Canada. They are sent to St. Johns, and are afterwards hawked about in wagons over the country. They come from lakes on the north side of the St. Lawrence, between Montreal and Quebec." Mr. G. states that he has "fished one of the lakes in the St. Leon district for several years with success until last June." A lake which he calls Carolus, is, according to his statement, annually netted by market men. This is a serious charge, and the poachers should be watched.

QUERIES.

Can any of our readers inform us what difference is noticed in the flavour of *Salmo salar* occurring in the Maritime rivers, and the one bred in inland waters?

Do Woodcock (*Philohela minor*) and the Snipe, commonly called English Snipe, (*Gallinago wilsonii*), nest on the Island of Montreal?

We know that Shad (*Alosa*) pass annually from the sea by the St. Lawrence and Back Rivers. What distance inland have they been noticed?

ANSWER TO CORRESPONDENT.

R. B. S.—Your pencil drawing and description of a deer-head and horns represent an aged male of *Cervus Virginianus*, recognized by

sportsmen as a king or royal buck. Deer having horns of an abnormal form are not of common occurrence in regions where they are annually hunted; but in the wilds of Muskoka it is possible to procure many royal bucks.

FISH AND GAME PROTECTION CLUBS.

The following gentlemen hold office for the current year for the Eastern Townships; meeting at Sherbrooke:—E. T. Brooks, M.P., President; L. E. Morris, Vice-President; T. P. Buck, Secretary; T. J. Tuck, Treasurer. *Committee*—W. W. Beckett, G. Lucke, R. G. Lackie, I. F. Markill, Hunter Bradford, J. K. Woodward, W. A. Hole; J. W. Merry.

The following gentlemen hold office for the current year for the County of Argenteuil; meeting at Carillon:—Dr. W. H. Mayrand, President; A. Bell, Vice-President; William Gaherty, Secretary and Treasurer. *Committee*—T. C. Fields, M. Simpson, R. P. Cooke, I. Dale, S. MacDonald, Dr. Gaherty, George Simpson. Game-keeper—W. Gaherty.

MONTREAL GUN CLUB.

At the annual meeting of the Montreal Gun Club, held on the 11th ult., the following officers were elected for the year 1881:—President, Colonel Frank Bond; 1st Vice-President, F. X. Archambault; 2nd Vice-President, Alfred T. Rudolf; Secretary and Treasurer, R. Blackwood. *Committee*—Chas. S. Ritchie, P. E. Normandeau, R. A. Allan.

THE AMERICAN GOSHAWK.

A beautiful male of this species was shot at St. Laurent on the 28th of February. This falcon visit the neighborhood generally about January or the beginning of February. It is never seen near our Northern woodlands in summer. Its nesting-place on this continent is, so far, unknown.

HYMENOPTERA OF THE ISLAND OF MONTREAL.

BY THE EDITOR.

The following insects were collected during the summers of 1879-80. This is the first published Canadian list belonging to the Order. The genera are arranged alphabetically, that future additions to the collection may be more easily classified:—

[Those marked with an asterisk belong to Saussure's sub-genus *Ancistrocerus*. I may here remark that *Crabro 6-maculata* is not distinct from *Crabro trifasciatus* Say.]

<i>Angiochlora pura</i> , Say.....	This bee is bright green.
<i>Agapostemon radiatus</i> , Say..	" " "
" <i>tri-color</i> , Lepel.	" " "
<i>Alcidamea producta</i> , Cress }	A small bee, common;
<i>Andrena fimbriata</i> , Smith....	Mount Royal.
<i>Apathus citrinus</i> , ".....	Mount Royal.
<i>Ammophila gracilis</i> , Lepel..	Common.
<i>Bombus ternarius</i> , Say	Abundant on Solidago.
<i>Ceratina dupla</i> , Say.....	A humble-bee, with centre of body red.
<i>Cerceris nigrescens</i> , Smith.	Abundant in May and June.
<i>Crabro chrysargineus</i> , Lepel..	A wasp, common in June.
" <i>cubiceps</i> , Packard....	Mount Royal, common.
" <i>trifasciatus</i> , Say.....	" " "
" <i>interruptus</i> , Lepel....	" " "
" <i>6-maculatus</i> , Pack., }	" " "
<i>nec.</i> Say.....	" " "
<i>Eumenes fraternus</i> , Say.....	" " "
<i>Gorytes phaleratus</i> , Say.....	" " "
" <i>simillimus</i> , Smith....	" rare.
<i>Halictus rubicundus</i> , Kirby.	" common.
<i>Leucopis affinis</i> , Kirby.....	" uncommon.
<i>Lyroda subita</i> , Say.....	" "
<i>Larra terminata</i> , Kirby....	" rare.
<i>Melissodes desponsa</i> , Smith..	" "
<i>Megachile mendica</i> , Cress....	" "
" <i>frigida</i> , Smith.....	" "
<i>Megachile brevis</i> , Say.....	" "
" <i>melanophœa</i> , Say }	" var. with
<i>Osmia similima</i> , Smith.....	scopæ almost black.
<i>Odynerus foraminatus</i> , Sauss.	Mount Royal.
" <i>*Capra</i> , Sauss....	" on bram-
" <i>*leucomelas</i> , Sauss }	ble. June.
" <i>†albomarginatus</i> " }	Mount Royal, on bram-
" <i>*albophaleratus</i> " }	ble, June.
" <i>*tigris</i> , ".....	Mount Royal, on bram-
" <i>*unifasciatus</i> , ".....	ble, June.
" <i>†Walshianus</i> , ".....	Mount Royal, on Solidago, September.
<i>Prosopeus affinis</i> , Smith.....	Mount Royal, July 1st.
<i>Petopseus caeruleus</i> , Linn....	" rare.
" <i>cæmentarius</i> , Drury....	" "
<i>Pompilus marginatus</i> , Say....	" "
" <i>luctuosus</i> , Cress....	" "
<i>Philanthus sativagus</i> , Say....	" "
<i>Tiphia inornata</i> , Say.....	" "
<i>Vespa maculata</i> , Linn.	" common.
" <i>consobrina</i> , Sauss....	" rare.
" <i>diabolica</i> , Sauss.....	" "

Those marked † belong to Saussure's sub-genus *Symmorphus*.

GAME IN SEASON—ONTARIO.

Wilson's Snipe, Wild Swan, Geese and Wild Duck, with the exception of Mallard, Black Duck, Wood Duck, Blue and Green Wing Teal.

FISH IN SEASON—ONTARIO.

Whitefish, Salmon Trout (*Winnoniche*.)

GAME IN SEASON—QUEBEC.

Wild Swan and Geese; all Wild Ducks.

FISH IN SEASON—QUEBEC.

Brook Trout, Whitefish, Salmon Trout (*Winnoniche*.)

Correspondence.

SALT SPRINGS IN LAKE ONTARIO.

Six months ago, before one thought of issuing this journal, the Editor wrote to Dr. Sterry Hunt to ascertain if salt springs existed in the bosom of the Lake. The object of the inquiry was in connection with *Salmo salar*—the common marine salmon—supposed to visit these brine springs, after escaping from the hatchery at Newcastle, Ont. Dr. Sterry Hunt's letter is important in connection with the theory that salmon, commonly called "land-locked" (*Salmo salar*), visit these places. The following letter proves the existence of salt springs in Ontario. The most interesting discovery will now be to trace the fish to the saline springs, and we trust that the Government will place the investigation in the hands of a competent person.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST:—

MY DEAR MR. COUPER,—Your enquiry about the existence of Salt Springs in Lake Ontario, in relation to the presence therein of a supposed variety of *Salmo salar*, interests me very much, from the fact that I have long known that the rocks in which the lake is excavated (the strata around it are nearly horizontal) are charged with saline matter, and give rise to brine springs along the northern shore. I have described and analysed many of these waters,* which are often stronger than sea water. The Trenton limestone which forms the shore and

the bottom of the lake from Kingston nearly to Toronto, is full of such brines. Two borings at Kingston gave me waters holding in 1000 parts 52.25 and 13.83 of solid matters. At Hallowell, on the Bay of Quinté, two wells for salt-making exist, which give 68.64 and 36.08 of saline matters. At Whitby is a copious saline spring, which gave 46.30 parts. At Ancaster, near Hamilton, another old salt well, probably getting its brine from the underlying Trenton, gave me 36.69 of salts, while another locality at St. Catharines, where salt-wells were once bored down into the Hudson River or Lorraine shales which overlie the Trenton, gave three brines with 30.15, 36.81 and 50.60 parts of salts. So you see the whole north and north-west side of the lake is bordered and underlaid by soils charged with the salts of an ancient ocean, and doubtless there are many points where fish could find the saline matter which they may need. The ocean waters do not contain more than about 35 parts in 1,000 of salts, and are therefore less strong than some of those which we found on the shores of Lake Ontario. I shall be glad if these notes throw any light on the problem of the land-locked Salmon.

Very truly yours,

T. STERRY HUNT.

P.S.—The brine-springs which I have mentioned are no longer worked for salt, as they contain a larger proportion of bitter salts than Goderich or Syracuse brine, and are not very good for salt-making.

T. S. H.

* In the "Geology of Canada," 1863.

SWIVEL GUNS.

SIR,—I happened to read lately in a number of your sporting paper, an article signed "Wallace," referring to the use of swivel guns in duck shooting, by Americans in our waters. I am personally interested in any measure which will preserve, for fair sportsmen, a little of that sport which is rapidly becoming a thing of the past, owing to the indiscriminate slaughter of our birds for the New York market, and it occurred to me that you or some of the readers of your paper might be able to give me some reliable details on the subject. I have had a good deal of conversation about it with Mr. J. Kerr, the member for Stormont, in the Ontario Parliament, and he is anxious to be furnished with information as to the size of the guns; their charges; the number of birds killed at one shot; the manner of approaching the

birds, and the way in which Americans in their steam-yachts reach the grounds. It appears to me that it is in Lake St. Francis that the principal destruction takes place. I have often heard the heavy firing, but have had no opportunity of seeing the methods adopted. There is no doubt that the birds, soon after their appearance, become so wild that fair sport is hardly possible. I believe that if we can procure the necessary information, something can be done to stop the nuisance.

I am, yours truly,

H. B. HOLLINSHEAD.

Toronto, 21st Feb., 1881.

The use of swivel or punt guns for the purpose of killing wild fowl is prohibited by law in Ontario. The American yachts, referred to in our correspondent's letter, come down the St. Lawrence, but from what point we have not been able to ascertain. It is an easy matter to secure a conviction against the offenders, and now that the attention of our sportsmen has been directed to their operations, we have no doubt these pot-hunters will not be permitted to prosecute their illegal traffic during the coming season.—ED.

PIGEON SHOOTING.

DEAR SIR,—Can you give your readers any information as to why we are never visited now by the immense flocks of wild pigeons which were so numerous in this neighborhood about fifteen or twenty years ago? For many years pigeons in large numbers have been almost unknown in this part of the country, which formerly used to be one of their favorite lines of flight. About twenty-two years ago, with a double muzzle-loader, within a mile of the City of Ottawa, between the tenth of April and the fifteenth of July, I killed 3,500 pigeons on the bank of the Ottawa, in their flight from south to north. Of course, I did not miss one day, except Sundays, and I was always out at daylight and home about nine o'clock a.m. During the same year there was a wonderful migration of red squirrels northward. I have seen twenty of these little animals in the Ottawa River, within sight at one time, making their way towards the North Shore, which they were so determined to reach that nothing could induce them to turn back when ten feet on their journey. About the time mentioned, a

friend of mine, on one occasion, while an almost limitless flock of pigeons was passing over, loaded and discharged a single-barrelled muzzle-loader nine times between the arrival of the front of the flock and the passing of the rear-end, killing about one hundred birds. In the same length of time one could have fired a breech-loader 40 times. I imagine that the partial clearing away of the bush in their line of flight, which was always uniform and fixed, has had something to do with the comparative disappearance of pigeons from parts of the country where they were formerly so numerous during their annual transit. Under existing circumstances, with the improved guns of the present day, I should like to have a few days of the old style of sport, pigeon shooting, even though such shooting is not to be compared with wild fowl, snipe or woodcock shooting. I have a "hammerless, treble wedge fast gun," 28 inches long in the barrels, 12 bore, $7\frac{1}{2}$ lbs. weight, full choked. It is only simple justice to the celebrated maker, W. W. Greener, of Birmingham and London, to say that this beautiful gun throws its shot, from the larger sizes down to the smaller, with great closeness and penetration at very long ranges. In fact, it is by far the most killing weapon I have ever handled. In beauty of finish, excellence of material, and complete effectiveness, it is a credit to the establishment in which it was manufactured. The ordinary charge for this gun is 3 drams of powder and 1 oz. of shot, and the heaviest charge, $3\frac{1}{2}$ drams of powder and $1\frac{1}{8}$ oz. of shot. I have, however, at 40 yards, made an extraordinary pattern with $2\frac{1}{2}$ drams of powder and $\frac{1}{2}$ an ounce of No. 6 shot. I feel confident, that with my gun and the latter charge of Curtiss & Harvey's No. 6, or Pigou, Wilkes & Laurence's No. 4 powder, I can kill a single duck sitting on the water, every time,—a much more trying shot than on the wing—at 50 or even 60 yards. With such a gun in the old times, when pigeons were plenty, I could easily have knocked over six or eight dozen between break of day and eight o'clock on any fine morning during the great flights of the past. Yours truly,

HAMMERLESS GREENER.

Ottawa, Feb. 25, 1881.

Forest clearing along the base of the Laurentian mountains may partially cause the non-appearance of the Passenger Pigeon in large numbers of late years. The wild pigeon, being gregarious, like the western locust, an-

nually remove to pastures new. A locality near prolific beech trees is generally selected by the birds as a nesting-place. The same applies to tree squirrels, which instinctively migrate where food, especially beech-nuts, may be abundantly obtained.—Ed.

GRAVENHURST, ONT., 3rd March, 1881.

SIR,—This may interest you. A young man in my employ, informs me that while living on a farm further back in the woods of Muskoka, discovered that one of the cows had been milked. Determined to find out who the robber was, a strict watch was kept on the cow for some days without success, and still she was milked. One of the family happening to go out about the break of day, noticed the cow lying down. On approaching her an adult Porcupine was noticed in possession of her lactal ducts, both animals resting quite contented. I have a Porcupine almost domesticated, which is fond of milk, but I never supposed that these animals could procure nourishment in the above manner. I have a tame Bear. He went into winter quarters on the 27th December. On the 30th I coaxed him out and gave him two slices of bread. He still keeps his bed and when I offer him an apple (his favorite bit,) he seems to care little whether he eats it or not. All he has had to eat since the 27th of December is three slices of bread and two apples. Does not my Bear beat Dr. Tanner?

Yours etc.,

R. B. SCRIVEN.

WILD FOWL OF THE NORTH-WEST TERRITORY.

DEAR SIR,

In the region between the Little Saskatchewan River and Bird's Tail Creek are innumerable small ponds and swamps, which, during spring, summer and autumn, abound with ducks of the following species, viz.:—blue and green winged teal, mallard, spoon-bill or shoveller, pin-tail and several others. This region appears to have been a great breeding place for wild fowl, and is so at present; but the advent of settlers, who have during the last two years come in great numbers, will probably drive the ducks to places more unfrequented by man. In the spring of 1880, the writer spent the month of June in this district, and having nothing in his commissariat but salt pork, beans and flour, and twenty-seven men to feed, was tempted to "go" for the ducks and

their eggs. During the first week of June we found the eggs fresh and the ducks in good condition.

On walking round a pond, say an acre in area, it would be no uncommon thing to find between thirty and forty duck nests, each nest containing from six to ten eggs.

The distance between the Little Saskatchewan and Bird's Tail Creek is about seventy-five miles, and the breeding country about fifty miles wide, and the whole covered with these duck ponds; so one can imagine the number of ducks hatched in this region.

But Oh! ye sportsmen who go to Le Grand Nord and Lancaster, if you could have one day's shooting in the North-West Territory during the month of September, and see the ducks, prairie chicken, snipe and yellow leg plover which abound in these ponds and their neighbourhoods, you would never again consider a dozen ducks a bag for a day.

Yours truly,

BIRD'S TAIL.

ENTOMOLOGICAL SOCIETY.

The 81st meeting of the Montreal Branch of the Ontario Entomological Society was held at the residence of the president, G. J. Bowles, on the 8th inst. Mr. H. H. Lyman read a letter from W. H. Edwards, of Coalburgh, West Virginia, who is the author of that beautiful work called "The Butterflies of N. America," asking information in regard to the *Pieridae* of Canada, and comparisons of forms from the cabinets of the members were carefully made for that purpose. Mr. Caulfield read notes on the genus *Calimorpha* found in Canada. Mr. G. H. Bowles, the secretary, having lately gone west to reside, a vote of thanks was carried for his useful services to the Branch.

Our Game.

REPORT ON NOMENCLATURE.

In these seven genera we find only two that possess any marked characteristics not common in a greater or less degree to all others. The ruffed grouse has a well developed ruff, yet others have indications of the same, and feathers over the eye replacing pectinated pro-

cesses, which, however, are present in rudimentary form. The Canada grouse has two less feathers in its tail. Not one of these species noted as being without gular sacs, but show them in rudimentary form, even to the ruffed variety. We find nothing here that does not properly belong to specific instead of generic description; it is merely multiplying genera without cause. If any one species is entitled to special generic classification, it is the ruffed grouse alone. The sub-division of species which has taken place is factitious, and violates the rule of classification and nomenclature before mentioned, being based solely on changes due to climate and habitat, and even then oftentimes only on the abnormal peculiarities of a single individual.

Now as to the nomenclature: *Tetrao* means simply *grouse*, and is applicable to all grouse as a generic distinction. It does not mean *capercaillie*, as some of our ambitious naturalists would make us believe, but grouse generically; and when taken in connection with the specific title, amply and sufficiently explains the individual species. American genera are not recognized abroad. *Tetrao* being now universally adopted by all solid naturalists, and by the Royal Zoological Society, though for a time, and, indeed, until quite recently, they were inclined to run after false gods. When *Tetrao obscurus*, *T. pedicæetes*, *T. cupido* (though *pinnatus* would be the better word), or *T. centrocerus* are mentioned, no one can mistake them to mean other than dusky, Canada or spruce, ruffed (or drumming grouse of the shades), Plains or sharp-tailed, pinnated, and sage grouse (inhabiting the centre of the continent). But instead we have *Dendragapus obscurus*, literally the "dusky tree percher;" *Canace Canadensis*, the "Canadian songster," so called probably because its voice is almost unbearable;" *Bonasa umbellus*, or the "drummer of the shades;" *Pediæetes phasianellus*, or "the pheasant that builds in the plain;" *Cupidonia cupido*, or the "cupid-like-cupid," (how appropriate), and

Centrocercus urophasianus, or the "bull pheasant of the centre of the continent."

These same naturalists have taken sportsmen repeatedly to task for calling *Ortyx Virginianus* a partridge, when it approaches the European bird of that name nearer than to any other species, and then they turn about and bestow upon it an even greater misnomer, that of "quail," a bird far more distantly related; it is neither the one or the other, but simply a colin.

Then, too, the application of the name "pheasant" to our ruffed grouse is sneered at and derided in every way, they telling us there is not a single pheasant form in all the great American continent; yet, with wonderful consistency, these would-be teachers have given us, under scientific appellations, three pheasants, to-wit: the wild turkey as belonging to the family *phasianidæ*, the "pheasant that builds in the plains" (sharp-tailed grouse), and "bull," or "chief pheasant of the centre of the continent," (sage grouse).

If one is wrong, all are wrong; a misnomer rendered in good or bad Latin and Greek is no better than when rendered in simple Anglo-Saxon. A grouse is simply a grouse and nothing more, and as such should be known; and so, too, a colin is but a colin. All grouse sprang originally from the one germ, and all possess in the same general way, the same general characteristics, habits, modes of life, etc., modified only by differences in surroundings, food, climate, etc. Even the ptarmigan, when removed for a time from the region of snow, fails to renew his white coat with the advent of autumn, and it is nothing strange that the habitation of any one region for any period of time, with difference in food, enemies and in surroundings should work changes appropriate to surroundings and enforce characters adapted to individual wants.

Gentlemen, we believe our game merits better treatment in the future than in the past; and classification and nomenclature in pure

and simple form will aid the people at large to the better study of species, their habits and their wants, and the better to understand the value of laws in their behalf. Let us turn the cold shoulder to weak minded youthful enthusiasm whose sole end is self gratification. Let us call our deer a deer, and our grouse a grouse, whether speaking of them scientifically or vulgarly. The tendency of true science to-day is towards conformity instead of, as in the past, multiplicity, and it is our province to aid and abet this end.

In accordance with these views, we submit the following nomenclature of a few species of our game—reserving the balance for future consideration—and ask its adoption and habitual use by sportsmen.

DEER GENUS.

Elk (*Cervus alces*), commonly called moose. This animal is identical with the elk of the old world, and should be so called, although his native American name, moose, is not a misnomer.

Wapiti (*Cervus Canadensis*), improperly called elk, and grey moose. This is an American form, probably having no representation in any other part of the world. The name elk should never be applied to him, as it belongs to another species.

Deer (*Cervus Virginianus*), also called Virginia deer, Red deer and American deer.

Caribou (*Cervus tarandus*), also called woodland carabou, woodland rein-deer and rein-deer.*

GROUSE GENUS.

Grouse, or pinnated grouse (*Tetrao cupido*), also called prairie chicken or prairie hen.

Ruffed grouse, (*Tetrao umbellus*), improperly called partridge and pheasant. As this fine bird is neither a partridge nor a pheasant, but a grouse, he should be respectfully addressed by his own name.

Spruce grouse (*Tetrao Canadensis*). Synonyms—Canada grouse, spotted grouse, black grouse, and Canada partridge and spruce partridge. As it is not a partridge, of course

these last two names will not be applied to this bird by an intelligent person.

Sharp-tailed grouse (*Tetrao pediacetes*), sometimes called prairie hen or chicken, and sharp-tailed partridge.

COLIN GENUS.

Colin, or Virginia colin (*Ortyx Virginianus*). Synonyms—Quail, partridge, Virginia quail, Virginia partridge, Maryland quail or partridge, and bob-white.

These synonyms are all inappropriate or belong to other birds, except the last, and should not be applied to this excellent and useful species of game. Bob-white is not inappropriate, and has been used considerably of late by certain enthusiastic name-makers, but we like the name Colin best. It is euphonious, easily spoken and written, and has the merit of age and the claim of priority. Webster defines colin: The American partridge—*Perdix Virginianus* or *Ortyx Virginianus*, and gives Baird as authority. Chambers' Encyclopedia says: Colin—see Virginia quail. On turning to that page we find: Virginia quail or Colin (*Ortyx*) a genus of birds of the family *Tetraonidae*, closely allied to the quails and partridges, but differing from both. * * * The best known species is the Virginia colin (*O. Virginianus*), &c.

Why this old and appropriate name has been dropped is an enigma, but the propriety of reviving its use is clear.

*NOTE.—There is another variety inhabiting the North, viz: the Barren-ground Caribou (*R. Groenlandicus*). It is smaller than the woodland, and may be the true rein-deer of the Lapps. Its range is generally on the plains north of the limit of pines, but an occasional specimen has been shot about one hundred miles north-east of Quebec. I am informed that two well-defined species are found in Newfoundland. The horns of the barren-ground are more typical and lighter than those of the woodland.—ED.

(Concluded.)

OUR FOREST TREES.

We have given, during the first three months of this journal's inception, a reasonable paper on the Game Nomenclature of Canada and the adjacent States. We now change the matter in order to give our readers information regarding our Forest Trees.

WHITE PINE; *Pinus strobus*.—The tallest and most stately tree of the New England forests. Full grown trees vary in height from 100 to 200 feet, and Dr. Dwight mentions one in Lancaster, N. H., which measured 264 feet, a mast was made from a white pine on the Penobscot River in Maine, which after being hewn was 90 feet long, and 3 feet in diameter. The qualities of the wood are lightness, softness, and durability; and for the extent and variety of its uses no other timber approaches it. In the construction of a dwelling it may be used with advantage in every part except the floors. It is little known in the Southern and South-western States. The pine forests of Maine, New York and Pennsylvania, once the chief sources of supply of this invaluable timber, are rapidly disappearing, and we are now deriving large supplies from Michigan and Canada.

PITCH PINE; *Pinus rigida*.—A smaller and less attractive tree than the preceding, with rough bark and deep green foliage. It is commonly 40 or 50 feet high, and 1 or 2 feet in diameter at the base. A few trees are still standing in Massachusetts that are 100 feet in height and 3 to 4 feet thick. It is largely used for floors of houses for which purpose it is not inferior to the southern pine. Unlike the white pine, it is very durable in damp situations, and is therefore used for sills, railroad ties and mill timbers. Its resinous nature makes it valuable for fuel.

HEMLOCK SPRUCE; *Abies Canadensis*.—This is the most beautiful of all our evergreens, and in early summer perhaps no tree rivals its rich and varied verdure. It is a favorite tree in ornamental planting, and is well adapted for hedges. It grows to the height of 80 to 100 feet. The wood is used in the Eastern and Middle States for the frames of houses, for rough boards and plastering lath. The bark is much used for tanning leather, and is mixed with oak bark to produce the best results.

(To be continued.)

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 4.

MONTREAL, APRIL 15th, 1881.

VOL. I.

OUR SUCCESS.

When this journal was issued in January, it was with a sanguine anticipation that it would be well received by our Canadian people, among whom are many true sportsmen and students of Natural Science. We have not been disappointed; the list of subscribers has steadily increased, and we have now several of the most intelligent men in the Dominion supporting it. The periodical is therefore a success. We have a clear path before us, and our promises will be fulfilled.

THE MINGAN RIVER.

Mingan is an old Hudson Bay trading post, in bye-gone days the most important and remunerative belonging to the Hudson Bay Company. A short distance east from the store houses, the good old river enters saltwater; one may say almost opposite the west point of the Island of Anticosti. Correctly speaking, the river has but two pools; yet, when there is a good run of fish, with proper management, three rods may be employed with comfort. There is no house near the pools; the surroundings have, therefore, wild charms to a stranger, and these arise principally from its historic associations as a camping-ground and retreat of British military officers from the Garrison of Quebec. Between the coast and the falls, the river takes the form of a crescent. A tributary enters it on the left, called the "Manitou," having a pool and fall of ten feet. Doubtless, salmon pass through this branch to their spawning-beds. At the base of the "Manitou" falls, we caught sea and brook trout, and it was here that we obtained the knowledge that *Salmo fontinalis* visited the sea. When Mingan was visited by us in 1868, the river was leased by Sir Greville Smyth, of England. The following occurs in our note-book:—

Arrived on July 16th, and was hospitably received by Peter Mackenzie, Esq., in charge of the post. The river, although narrow, is pretty as one follows it inland. It has abundance of sand-banks at its mouth; a grand estuary where the best of sea trout fishing can be had at this season. A tributary called the "Manitou" enters it about half-way from its entrance to the sea, and the fishing-pools are of easy access.

The gentlemen then fishing it, were almost daily tormented by Indians representing that they had nothing to eat, consequently they were supplied with as much food as Sir G. Smyth and his party could spare. But the supply of salmon given to them by the anglers was not considered sufficient to satisfy the Indians in camp at Mingan. One of the crafty aborigenes circulated a report among the tribe that he had seen a white man gaff a salmon in the whirlpool at the base of the falls. The report took well among the hungry Indians, and they at once determined to follow the white man's example. They notified the fishery guardian of their intention, and, on the following Sunday, a number of Indians entered their canoes to proceed to the falls where they speared several fish before the guardian could prevent them. The whirlpool of the Mingan is an extraordinary pot or round hole at the base of the fall, where a great force of water is kept in a continual circular motion. In this pot or whirlpool, in July, innumerable salmon circle, each awaiting its chance to leap to the first lodge. Here then, with spear in hand, did the Indians take their sweet revenge, procuring all the fish they required. The Mingan Indians should not then go to the pool for salmon, they were allowed by the Government the privilege to net trout near the mouth of the river. However, this grant appears to have been disregarded by them. They had trout

nets, but were too lazy to use them; they always prefer the spear.

The Labrador Indians state that the country in which they reside belongs to God and themselves. They are, therefore, suspicious of strangers occupying the rivers. These people come down invariably to the south coast in summer to trade off their furs, and attend the mission. They return to their hunting grounds in August and September.

MIGRATION OF SHAD.

In the March number, we gave a query, asking for information as to the distance Shad has been seen in inland waters. We are told that this fish has been taken in Lake Ontario, near Hamilton. Some of our readers may have been puzzled regarding the question, but our object was to show that if Shad migrated annually from the salt water to Lake Ontario, therefore there cannot be any obstacle in the way of Salmon bred in Ontario from reaching the sea.

THE GEOLOGICAL MUSEUM.

In 1877, the Hon. Mr. Mills, then Minister of the Interior, introduced a Bill in the Commons of Canada, "To make better provision respecting the Geological Survey of Canada, and for the maintenance of the museum in connection therewith." The Act was carried by the late administration. The removal of the Geological Survey from Montreal to Ottawa was then decided by sec. 6, as follows:—"The Governor in Council may, whenever he thinks fit, direct the removal of the Geological Museum, and the officers and others connected with the Geological Survey Branch of the Department of the Interior, to the City of Ottawa." This is now being carried out by the present Government. Referring to sections 2 and 3 of the Bill it will be seen that a new feature appears—viz: Zoölogy—in fact the Hon. David Mills specially framed it (Dominion Statutes, 1877, chap. 9, p. 49) to

include all branches of Natural History, in order to form a museum of a National character, useful for reference to all interested, and likely to prove beneficial to the general public of the Dominion. It will therefore be seen that the intention of the Government in removing the Geological collections permanently to Ottawa, is to establish near the seat of Government, a museum similar to that of the Smithsonian Institution, Patent Office and Department of the Interior at Washington, in the United States. This is doubtless a correct view of the matter. If Mr. Mills' Bill is legally and thoroughly carried out, Montreal will certainly lose the benefit of the Survey collection, but in future, as a National Museum, the Dominion, as a whole, will be fully compensated. It would be well, however, for the Government to consider the propriety of presenting duplicates of minerals and fossils from the Surveys Collection to the new museum of McGill University, where the citizens of Montreal and interested visitors could have an opportunity of examining them.

QUERIES.

Among the wild ducks occurring in the Dominion are three species belonging to the genus BUCEPHALUS, viz: Barrow's Duck, or the Iceland Golden-eye, (*B. Islandica*, Baird); The common Golden-eye, (*B. Americana*, Baird); [The second species has its white cheek-spots almost circular, while the cheek-spots on *Islandica* are pyriform,] and the Butter-ball or Buffle-head (*B. albeola*, Baird). Barrow's Golden-eye nest in trees, entering a hole like the wood duck. A nest of the Iceland or Barrow's duck was found in a tree at Missisquoi Bay, in the Province of Quebec; it contained nine eggs. Can any of our readers give us information regarding the nidification of the common Golden-eye and the Butter-ball? We notice that the Michigan Sportsman's Association have lately placed the above ducks under the old genus FULIGULA.

In a published list of birds found on the Island of Newfoundland, by Henry Reeks, F.L.S., occur two Western ducks, viz:—the Gadwall (*Chauelasmus streperus* Linn), and the baldpate (*Mareca Americana* Gmelin). The latter is stated to be a common summer migrant. To our knowledge the former has not yet been shot in the Province of Quebec, and the latter is extremely rare. We would be thankful for further information regarding their occurrence in Newfoundland.

How many species of Black Bass occur in the Province of Quebec? Agassiz described a Black Bass from Lake Superior which attains a large size, averaging from fifteen to thirty pounds. We think he named this species *Huro Vulpus*, and it was at one time common in Ashbridge's Bay Marsh, near Toronto.

WOODCOCK GROUNDS.

We have always found it difficult to procure correct information regarding the best woodcock covers in this Province. Sportsmen who know of good localities which they visit annually, keep quiet on the subject. There are, doubtless, many excellent woodcock grounds within a day's trip from Montreal, and it is our intention when they are discovered, to give the lovers of this kind of sport, the benefit, that they may visit them in proper season. We have been informed that there are several good covers on the south side of the St. Lawrence, viz: La Prairie and Lacadie. On the south side of the Richelieu, at Rouville, St. John Baptiste and St. Pie. That the springs where woodcock occur in the latter region, embrace a circumference of twelve miles. Now, gentlemen, do not be jealous in regard to this matter; give us information that we may be led to localities where good sport can be obtained.

MESSINA QUAIL.

An order has been sent from this city for 200 Messina or migratorial Quail. On their arrival it is intended to release the birds in the neighborhood of Lachine.

What became of the Quail which were brought to Quebec and Montreal last year for acclimatization? We are anxious to hear from those interested in their introduction.

Correspondence.

"THE BARRED OWL."

To the Editor of THE CANADIAN SPORTSMAN AND NATURALIST:

DEAR SIR,—Referring to the article under above heading in January number, the following statement may not be uninteresting to your many readers:—The Barred Owl, *Syrnium nebulosum*, has been taken this winter in and adjacent to this city in unusual quantities. So much so that, that mythical personage yecept "the oldest inhabitant" fails to recall to his or her memory anything like it. The cause of the same occurrence in such abundance in the vicinity of Montreal, you say, may possibly be on account of the House Sparrows, which have multiplied greatly of late; but as we have none of the last mentioned birds in this province, and as this has not been considered by any means a severe season, some other reason must therefore be assigned. The above owl is found here every winter, more or less.

Mr. J. H. Carnall, taxidermist, of this city, has had in his store, this winter, "at one time seventy-five" Barred Owls, and has put up since last November over "one hundred skins." The greater number were captured in the months of November and December last. Can any of your readers account for this phenomenon? In addition to the above Mr. C. has mounted 22 Great Horned Owls, *Bubo Virginianus*; 9 Snowy Owls, *Nyctea nyctea*; 12 Saw Whet Owls, *Nyctale Acadia*; 2 Long Eared Owls, *Otus Wilsonianus*; 1 Richardson's Owl, *Nyctale Richardsonii*, and several Hawk Owls, *Surnia ulula*. So you see STRIGIDAE have been well represented. About a fortnight ago *S. nebulosum* was seen in King's Square, situated in the centre of this city.

I am, yours truly,

R. ROWE.

St. John, N.B., March 7, 1881.

The above is from an esteemed friend, a sportsman and a lover of Natural History; one who has an acute eye when viewing Ornithological or other objects. When he says that

the European Sparrow does not occur in St. John, and that the season "has not been considered by any means severe," we believe him. The Barred Owl, however, visited several Canadian cities during the early part of the winter, and they were seen killing House Sparrows in the city of Montreal. We advance three reasons in order to account for the unusual occurrence of *STRIGIDÆ* in cities. 1st. It may have been a prolific year, commonly called a "metropolis year" of the species. 2nd. The severe weather in the northern woodlands would probably prevent an extraordinary number of the birds from obtaining food. 3rd. The introduction of the Domestic Sparrow having induced other rapacious birds, such as the Shrike, &c., to remain with us during winter, leads to the supposition that *FALCONIDÆ* and *STRIGIDÆ* would visit the cities to have their share of the importation. We are at a loss to account for the occurrence of the Barred Owl in such numbers in the city of St. John. It occurs to us that a prolific year and want of winter food of those bred on the Northern coast of the Lower St. Lawrence, would cause them to make their flight to more southern localities, consequently crossing the range of the latter city.—Ed.

RARA FELIS.

There was trapped last week in the Township of Dummer, within a few miles of the Town of Peterboro', a very rare animal—rare, at least, as far as this County, or perhaps, I may say as far as this Province, is concerned, viz: a red Lynx. It is a male, and judging by its teeth, at least six or seven years old. Its measurements are as follows: Length from ears to insertion of tail, 30 inches; height to shoulder, 20 inches; breadth of forehead 5 inches; length of tail, 6½ inches. Weight 30 lbs. The neck is immensely muscular, but the eyes, claws, and teeth are not so large as those of the Canadian Lynx, *Felis Canadensis*. The color is reddish tawny, mottled with brown, with wavy stripes on the inside of the legs; a dark stripe along the back; tip of tail black; throat white; with whitish spots at back of either ear. The man on whose

farm the animal was trapped, had noticed its spoor, very different from the tracks of the Canadian Lynx, for four or five years past, and had shot at it last year, one of the buck-shot being found in the body after it was killed. I saw it soon after it was brought into town, as well as after it had been flayed. It was in excellent condition, quite fat. It had recently killed two sheep, and had probably lived during the winter months on hares (*Lepus Americanus*) which abound in the neighborhood; occasionally, perhaps, varying its *menu* with *perdrix au naturel*, or a stray squirrel or other small rodents.

VINCENT CLEMENTI.

Peterboro', March 24, 1881.

NOTE.—The above is probably the American Wild Cat, *Lynx rufus*, an animal not known to occur in the Province of Quebec. About twenty years ago, it was more abundant in Western Canada. We are sorry to learn that this rare quadruped has been flayed, as the specimen would be quite an acquisition to any Canadian Museum. If the skull is not lost we would be glad to examine it.—Ed.

DEER'S HORNS, &c.

SIR,—Thank you very much for being so kind in answering my inquiries relative to my Buck Heads. I am not, however, satisfied for the following reasons:—I understand you to say that no deer can be a Royal buck, but an old animal. Now, being a Taxidermist, in my practice, I have found five heads with the same kind of horns, and I am fully satisfied that one of them was not more than three and a half or four years old. Then the ears are smaller and broader between the eyes, than in *Cervus Virginianus*. Besides my buck has a slight elevation on the nose, at the juncture of the bone and cartilage which I have never noticed in *C. Virginianus*. I wish to tender my thanks for your insertion of the Ontario Game Laws; I feel satisfied that Ontario sportsmen will be glad to see it. I notice that you mention a Gos-Hawk having been shot at St. Laurent on the 28th Feb. On the 16th March, I received a very handsome specimen which I have set up. They are not plentiful here; merely showing themselves occasionally. Can you tell me, has a Hawk the power of reasoning? I sometimes think they can reason to a certain extent. I have a tame Sparrow Hawk which is in the

habit of hiding its surplus food; it always hunts it up when in need of it again. I also possess two great Horned Owls and they also hide their food when satisfied, returning to it again when hungry. Watching the movement of these birds led me to think that they must be able to reason in a small degree. I hope to be soon able to send you an electrotype of my Deer head, so that you can insert it at the head of my advertisement.

I am yours, &c.,

R. B. SCRIVEN.

Gravenhurst, Ont., }
25th March, 1881. }

NOTE.—Mr. Scriven is just the kind of man we want to hear from periodically. His questions are so far interesting and in order, as they invariably lead to the advancement of our knowledge of Natural Science. In regard to the Deer horns, our answer was given in harmony with his description and drawing. We could not answer otherwise, as all the North American *Cervidae* are described. It may be possible that the heads in his possession are those of a supposed deer called the Little Moose, said to occur in the northwestern forests. We have no knowledge of the animal excepting from correspondence. We do not believe birds can reason. They are doubtless provided with acute instinct, and the hiding of food when not required by them is a force of habit derived from the stability of the species through ages past. The crow family possess it to an extraordinary degree; they not only hide their surplus food but steal and hide every light article they place their eyes on. For instance the European Jackdaw and our Blue-Jay.

SIR,—I see in your March number a letter, signed "Hammerless Greener," in which he states he has made an extraordinary pattern with $2\frac{1}{2}$ drams of powder and $\frac{1}{2}$ an ounce of shot; but he does not say anything about the penetration. For the last five years I have fired upwards of ten thousand shots at Pettit's Pads, and lately at a Force Gauge made on the same plan as the "Field Gauge" used at the London Gun Trials of 1879, excepting I use a pendulum (3 feet long) with a circular plate 5 inches diameter, instead of a 10 inch plate, attached to a platform suspended by four rods.

I have tried $2\frac{1}{2}$ drams of powder (C. & H's No. 6) and $\frac{1}{2}$ an ounce of No. 6 Newca-tle Chilled (270 pellets to the ounce) with three 12 bores by W. W. Greener. I send you the average of 12 shots with the above charge, and also the average of charges that suit my guns best, so that your correspondent can compare them. I always fire from a rest in which the gun is held, the recoil being taken by a leather breeching passed round the heel plate:

Hammerless Gun, 30 inch barrels, weight 8 pounds.

Charge.	Pellets on Gauge, 5 in. diam'r.	Force per pellet.	Final velocity, ft per sec.	Pattern, 10 in. circle.	Pattern, 30 in. circle.
$2\frac{1}{2}$ d's p'r, $\frac{1}{2}$ oz. s't. . . 4		2.12	572	8	97
$3\frac{1}{2}$ " 1 $\frac{1}{2}$ " . . 14		2.41	651	55	222

No. 2 Gun, 30 inch barrels, weight 8 pounds 10 ozs.

$2\frac{1}{2}$ d's p'r, $\frac{1}{2}$ oz. s't. . . 2	1.95	526	11	63
$3\frac{1}{2}$ " 1 $\frac{1}{2}$ " . . 10	2.37	640	43	204

No. 3 Gun, 28 inch barrels, weight 7 $\frac{1}{2}$ pounds.

$2\frac{1}{2}$ d's p'r, $\frac{1}{2}$ oz. s't. . . 7	1.80	486	16	71
$3\frac{1}{2}$ " 1 $\frac{1}{2}$ " . . 9	2.23	602	47	198

Out of the thirty-six shots fired, four balled with No. 3 gun, and one with No. 2 gun. Throughout the trial the pattern was very uneven, being in clusters, appearing as if the shot had balled on leaving the gun and separated a few yards in front of the target. According to my experiments a force of 2.40 is equal to about 30 sheets of the pad. Could "Hammerless Greener" suggest any other charges, etc., I would be most happy to give them a trial at my force gauge and report the result through your columns, providing you would kindly grant me space.

Yours truly,

12-BORE GREENER.

Lachine, P.Q., April 5, 1881.

INSECTIVOROUS BIRDS.

ARE THEY BENEFICIAL TO THE FARMER AND FRUIT GROWER.

SIR.—In the Eleventh Annual Report of the Entomological Society of Ontario, the President, Wm. Saunders, in his annual address, states his conviction that but comparatively little help is got from birds in keeping in subjection injurious insects, and having examined the contents of the stomachs of a large number of birds, he has only found occasionally an injurious insect therein. He mentions the swallows, *HIRUNDINIDÆ*; kingbird, *Tyrannus Carolinensis*; pewee, *Sayornis fuscus*; night-hawk, *Chordeiles popetue*; yellow warbler, *Dendreca astiva*; red start, *Septophaga*

ruticilla; red-eyed and yellow-throated vireos, *Vireo olivaceus*; and *V. flavifrons*; woodpeckers, PICIDÆ; blue bird, *Sialia sialis*; cat-bird, *Galeoscoptes Carolinensis*; brown thrush, *Harporhynchus rufus*; sparrows, FRINGILIDÆ; cuckoos, COCCIDÆ; nuthatch, *Sitta Carolinensis*; chickadee, *Parus atricapillus*; kinglets, SYLVIDÆ; meadow-lark, *Sturnella magna*; Baltimore oriole, *Icterus Baltimore*; wren, *Troglodytes ædon*; black-birds, ICTERIDÆ; and especially the Robin, (*Turdus migratorius*) as a great fruit thief, destroying a far greater quantity than it would eat, therefore, should not be protected by legislation. I trust the above extract will induce readers of the *Canadian Sportsman and Naturalist* to give their experience respecting the usefulness of Insectivorous birds to farmers, fruit-growers, and gardeners.

E. D. W.

Montreal, March 28th, 1881.

The above-named birds are all insectivorous, but the question regarding their being beneficial to agriculture is a matter which we have always contended, was overstretched. Mr. S. A. Forbes, an American naturalist, has examined the stomachs of 150 birds of the Thrush family, with quite unexpected results. "Forty-one of these were Robins; thirty-seven Cat-birds; twenty-eight Brown Thrushes; eight Alice's Thrushes; six Swainson's Thrushes, and one Wilson's Thrush. They were shot in various months from March to September and during four successive years. The number of specimens is, of course, too small to allow conclusive generalization; but as no equal number of specimens has been previously studied with equal care, it will probably be fair to state some of the result as hypotheses, more or less probable, but requiring verification by further study. The most fruitful peculiarity of the method used was the careful estimate, for each specimen (after a critical microscopical examination of the contents of the stomach), of the relative amounts of all the elements of the food, and the subsequent averaging of these ratios for the species. By this means I determined the hitherto unsuspected fact that the family is inordinately destructive to predaceous beetles (HARPALINI), seven per cent of the food of the 150 specimens consisting of these highly beneficial insects. When we remember that one predaceous insect must destroy many times its own bulk of other insects during its life, we see the importance of this fact in respect to the economical value of these birds. Between the TURDIDÆ,

and other families, I can make only the following crude comparison. Of the 150 Thrushes examined, forty-six per cent. had taken CARABIDÆ, while of 194 birds of other families in whose stomachs insects were found, less than five per cent. had eaten these Coleoptera. The worst sinner in this respect was the Hermit thrush; while the Alice thrush and the Wood thrush had eaten comparatively few. Curiously the ratio of CARABIDÆ continued undiminished during the fruit season when the total of insect food fell away very rapidly. For example, the Cat-birds ate in May, June and July, eighty-seven per cent., sixty-four per cent., and eighteen per cent., respectively, of insect food, while the CARABIDÆ for those months averaged seven per cent., six per cent., and ten per cent., the corresponding fruit record standing nothing, thirty per cent. and seventy one per cent. The following genera were distinguished among the CARABIDÆ *Scarites*, *Dyschirius*, *Platynus*, *Evarthrus*, *Pterostichus*, *Amara*, *Brachylobus*, *Geopinus*, *Agonoderus*, *Anisodactylus*, *Bradycellus*, *Harpalus*, and *Stenolophus*. The absence of all, or nearly all, the specially protected genera is noticeable (unless the obscure colour of many is reckoned a special protection.) A single *Cicindela* (*C. lecontei*) was found in the stomach of a Cat-bird. It is further interesting to notice the apparent specific difference in the food of allied species, occupying the same ground at the same time and drawing their food from the same sources of supply. The Robin and the Cat-bird differed materially in the number of ants and myriopods destroyed, the former eating very few of either (one per cent. and two per cent. respectively). The Brown thrush departs from all the other members of his family in his fondness (?) perhaps it is stern necessity which forces him to this miserable shift, for insects and fragments of grain picked from the droppings of stock. Twenty-eight per cent. of the food of those shot in April was derived from this source, and another eight per cent. consisted of carrion beetles (SILPHIDÆ). This bird was further distinguished from the Robin (as is the Cat-bird also), by the absence of the larva of *Bibo albipennis* Say which made over half the food of the Robin in March. It is important to recall, as throwing light on the question of fixity of food habits over large areas, that Professor Jenks, now of Brown University, found nine tenths of the food of a large number of Robins whose stomachs were examined by him in Massachusetts, in March and April, 1858, to consist of this same larva."

The above particulars and conclusions will serve to give some idea of the interest and promise of this subject, if it is studied with as near an approach to the strict scientific method as the circumstances will permit.

ILLEGAL FISHING.

I would draw attention of the Montreal Fish and Game Protection Club to the illegal netting and angling for Black Bass (*H. nigricans*), which takes place at Beauharnois, in the mouth of the River St. Louis; also, in the vicinity of the islands in Lake St. Louis, during the close season, between the 15th April and 15th May. At this period fish swarm in these localities and fall an easy prey to the poachers. If this infraction of the Game Laws could be stopped, Montreal sportsmen and others would have good Black Bass and Doré fishing, easy and inexpensive to reach. Minnows for bait can be caught in large numbers in the mouth of the River St. Louis.

E. D. W.

Montreal, 15th March, 1881.

PROPOSED CHANGE IN THE QUEBEC GAME LAWS.

SIR,—That the Fish and Game Protection Club of the Province of Quebec is becoming a "terror to evil doers" is apparent from the fact that a close search at the commencement of the close season for Deers, Hares, &c., and for Partridges resulted in the discovery of but one piece of venison and one small lot of hares. I am glad to say that all the respectable Fish and Game dealers in the city are working in harmony with the Club, a state of affairs that did not at one time exist. The Club intends petitioning the Legislature at its next session for the following alterations in the Game Act, viz: Close season for Deer and Moose to commence on 1st January, instead of 1st February; for Black Duck, Wood Duck and Teal, to commence 1st April instead of 1st May; for Partridges to commence 1st January, instead of 1st March.

H. R.

NOTE.—At this instant we avoid comment on the above alterations. Quebec sportsmen will doubtless be careful that the close seasons are in accordance with the natural history of the animals mentioned. Our object is to harmonize the Game Laws of Quebec and Ontario which we have had in view from the first issue of the SPORTSMAN, &c.—ED.

SIR,—With regard to the paragraph in your last number headed "Fish and Game Club Beware," I think you must have overlooked the fact that trout had been in season in this Province two months before the article in *Forest and Stream* was published, hence the exportation of trout to Vermont referred to was not illegal. As regards the district whence the trout were said to have come, I may state that the supervision of the Fishery Department is so perfect that nothing is left for the Fish and Game Club to do. Of course it is utterly impossible entirely to stop poaching in a wilderness so vast.

H. R.

NOTE.—We have a decided objection to netting Brook Trout during any season; this alone led to our remarks.—ED.

GAME LAWS.

PROVINCE OF QUEBEC.

It is unlawful to hunt or kill:—

Elk, commonly called Moose, Virginian Deer, Caribou or Reindeer, and Arctic Hare from the 1st February to 1st September.

Ptarmigan, Ruffed Grouse, (Partridge) Spruce Grouse, Sharp-tail Grouse, Woodcock or Wilson's Snipe from 1st May to 1st September.

Wild Swan, all kinds of Geese, or wild ducks of any kind from 1st May to 1st September.

The same east of Three Rivers, from 15th May to 1st September.

It is unlawful to catch:—

Pickarel (Doré) or Pike Perch, Maskilongé, and Black Bass, from the 15th April to 15th May.

Salmon (with nets) from 1st August to 1st May. Do. (with the fly) from 1st September to 1st May.

Brook Trout (speckled) or River Trout, from 1st October to 31st December.

Salmon Trout and Lake Trout from the 15th October to 1st December.

Whitefish from the 10th November to 1st December.

PROVINCE OF ONTARIO.

It is unlawful to hunt or kill:—

Deer, Elk (Moose), Reindeer (Caribou), between 15th of December and 1st October.

Grouse, (pheasants), Prairie Fowl or Partridge between 1st January and 1st September.

Wild Turkeys and Quail between 1st of January and 1st October.

Woodcock between 1st January and 1st August.

Snipe between 1st of January and 15th August.

Water-fowl known as Mallard, Grey Duck, Black Duck, Wood or Summer Duck, between 1st January and 15th August. Other Wild Ducks, Swans or Geese, between 1st of May and 15th August.

Hares between 15th March and 1st of September.

The Ontario close season for fish is similar to Quebec.

FISHERIES DEPARTMENT.


Public attention is here directed to the following Fishery Regulation adopted by the Governor-General in Council, on the 23rd March :—

“Fishing with nets or seines is prohibited during a period of two years from the present date in that part of the River Ottawa and its tributaries, and the Lake of Two Mountains, fronting on the Counties of Jacques Cartier, Vaudreuil, Two Mountains, and that portion of the County of Argenteuil extending from Carillon downwards to the eastern boundary of said county.”

All well disposed persons are requested to afford the Local Fishery Officers whatever information and assistance they can towards enforcing this Regulation.

Every person guilty of a breach of the same is liable to forfeiture of fishing material and fine not exceeding \$20, and imprisonment in default of payment.

Complainants will receive one half the fines imposed and be paid for their costs and attendance as witnesses.

 Mr. G. N. Hyde is Game-keeper to the Argenteuil Fish and Game Club, not W. Gaberty as stated in our last number.

We have received the March number of the *Canadian Poultry Review*. It is published by James Fullerton, Strathroy, Ont. This meritorious and useful Magazine is devoted to all kinds of Poultry and Pet Stock. Its advertising columns exhibit evidence of support from all the Poultry fanciers in the Dominion.

OUR FOREST TREES.

BLACK OR DOUBLE SPRUCE; *A. nigra*.—A medium sized tree of dark sombre foliage, and very regular conical form. The wood is light and elastic, and is much used for the smaller spars of ships. A mast made of it shows no signs of decay after more than 30 years use. It is also much used for shingles. The popular beverage, spruce beer, is made from the young shoots of this tree.

WHITE SPRUCE; *A. alba*.—A tree of lighter green foliage and less spreading growth than the preceding. The wood is used for similar purposes; and when ground into pulp is employed in the manufacture of paper. From its tough roots the Canadian Indians make the thread with which they sew their birch bark canoes.

BALSAM FIR; *A. balsamea*.—A beautiful tree of deep green foliage and regular form. Its beauty is increased by its large and numerous cones of a soft purple color. The valuable Canada Balsam is gathered by puncturing the rough bark. The wood is of little value, and the tree is short-lived.

LARCH; *Larix Americana*.—All of our other cone-bearing trees are evergreens, but the Larch drops its leaves at the approach of winter. It is a slender tree of medium height. Its wood is very compact, heavy, and durable, and is especially prized by ship builders, who know it by the name of Haematack.

WHITE OAK; *Quercus alba*.—A noble forest tree, of widely spreading form in open situations. Its name is derived from the whitish bark. Next to the white pine, it is the most valuable of our trees. It furnishes the best ship timber, and is largely used in the manufacture of wagons, agricultural implements, casks, common chairs, and baskets. The bark is valuable to the tanner.

RED OAK; *Q. rubra*.—This tree attains its greatest perfection in New England, and is especially abundant in Massachusetts, where it sometimes even rivals the White Oak in size and majesty of form. In general utility it is far inferior to the white oak. Even for fuel it is of little value, and the bark is almost worthless.

BEECH; *Fagus*.—This tree is remarkable for the density of its shade and the smoothness of its bark. It grows rapidly and reaches a height of 80 to 100 feet. The compact, heavy wood is used for plane-stocks and saw-handles. The sap wood is firmer and more durable than the heart. The fruit is a rich, oily nut, eagerly devoured by swine, squirrels, and partridges.

(To be continued.)

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Notices of infractions of Laws for protection of Fish
and Game should be sent to the Secretary.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 5.

MONTREAL, MAY 14th, 1881.

VOL. I.

THE GRAND ROMAINE.

This beautiful river enters the sea about nine miles east of Mingan. It is considered one of the best for angling. The salmon are generally of large size, said to be of extraordinary strength, and give excellent sport; indeed, one cannot easily doubt this statement when he visits the place and views the magnificent falls, just above the angling pools, and opposite the camping-ground. He may naturally ask does salmon leap this mighty torrent of water? No, dear Sir, although the salmon of this river are remarkable for their size and beautiful form, they cannot reach the spawning-grounds by attempting to leap such a perpendicular fall of water. Nature has provided another entrance for the fish, a short distance east of the falls. It is therefore evident that the habits of salmon are similar to the sea trout, which are known to remain for many days feeding in the estuary, gradually becoming accustomed to the river water before they finally depart for the purpose of propagation. In like manner, salmon leaving the salt water make for the pools at the base of the Romaine falls, where they remain a short time making vain efforts to go farther, but finding a barrier they again turn seaward discovering the east entrance where they enter and reach, (after many difficulties) their spawning-grounds. While we were at Mingan in 1868, the mistake of salmon missing their native river, was illustrated by the fact that the Romaine form of fish was caught in nets placed near the Mingan. It must be remembered that although there is no structural difference in *Salmo salar*, there is an evident change in the exterior form of the fish which is remarkable and moreover applicable to the river to which the salmon belongs, and the man who net-fished the Mingan at that time, could, with confidence say, "Mr. Couper,

this salmon which I have just taken from my net has made a mistake, it has passed its own river." Capt. LeMarquand, please explain. "You see, sir, that the shape of the fish is totally different from Mingan salmon; its form is deeper; it is more bulky, and the head is not shaped like any salmon entering the Mingan. This we have ascertained through long experience; we can pick out every fish that makes this mistake." In *Lovell's Gazetteer*, the Romaine is described as a large river of Quebec; falls into the north shore of the Gulf of St. Lawrence. It extends north and south many hundred miles, and has some fine falls. One hundred miles from its mouth, there is a natural bridge, and three hundred miles farther magnificent falls, said to be equal to those of Niagara." We have had the pleasure of entering the Romaine in a canoe, as far as the pool at the base of the fall on the north-west branch, about ten miles inland, where this portion of the river becomes narrow, descending from primitive rocky gulches, showing evidence of the difficulty salmon has to contend with in reaching the spring tributaries which make the river proper. If the water happens to be low, the fish must remain in the pools until rain occurs further north to add to the bulk of the stream. Should this not take place, many fish which have reached this far must of necessity return to salt water before winter sets in. In our opinion the Fishery Department should take away this obstacle to salmon passage on the Romaine. It would cost little to make proper and permanent fish-leaps through these almost perpendicular falls, besides it would make the river more valuable, and increase the number of salmon. Several North-Shore St. Lawrence rivers are similarly situated. For instance, the Mingan; it also could be improved by making a more easy passage for salmon over its rocky fall of water.

Microscopical.

The Microscope is a delightful source of instruction, especially when in the hands of an expert. The *minute* of this world are through it clearly presented to our view. When the instrument is properly worked by an intelligent head of a family, the information and pleasure derived from it is unbounded. Having clever microscopists in Canada, it is our wish to encourage their investigations, and we therefore solicit communications regarding new discoveries. Mr. Murphy's microscopical investigations on the structure of the mosquito's proboscis should induce others to follow correct manipulation. We cannot publish what has been microscopically examined in a hurry; an object must be repeatedly and thoroughly tested, and its structure properly defined by frequent examinations in order to claim our attention. Furthermore, in describing minute forms, it will be necessary to apply proper names to their several parts. It is not correct to call the proboscis of a Dipterous fly (the mosquito) a sting, as the latter organ does not occur in the two-winged flies. Bees and wasps (four-winged flies) are stinging insects.

THE MOSQUITO'S PROBOSCIS.

It is an interesting question how a creature as small as the mosquito, and so very light that the slightest breeze will blow him away, can hold on to his prey with sufficient tenacity to force through a hard epidermis, and into solid flesh, his very delicate and perfect instruments. A careful examination of his organs, and repeated observation of the insect while feeding, by Mr. Edward Murphy of Montreal, (who has dissected and mounted a large number of these little creatures, and has paid particular attention to their habits) have brought to light the following particulars, which are copied from his extensive notes on the subject.

As in all the "blood-sucking" insects there is a wonderful modification of the mandibulate

mouth. A prolongation of the *labium* forms a proboscis, covered with minute scales; having a sort of muscular contraction a short distance from the point, which not only holds all the contained organs into a compact body for insertion, but also forms a sort of "cleaning" organ, through which they can be drawn. When the instruments are inserted into the flesh, this proboscis is pushed back, bending towards the top, at an angle more or less acute, and having something the appearance of a leg with a bent joint.

The mandibles have been modified into a pair of beautiful saws, whose sharp teeth, generally ten in number, small at the point of the instrument, and increasing in size towards the mouth, and *set backwards*, not only act as cutting tools, but from their barbed shape, give the creature the "purchase" necessary to hold him to his prey. A careful observation of the insect whilst feeding, shows him *pulling* the saw on one side as he *pushes* it on the other. The side he *pulls* is the side that cuts. Thus the action that increases the depth and size of the wound, also gives him the necessary "purchase" to enable him to push in the opposite saw.

Between these saws and the central tube the *maxillæ* are modified into a pair of irritators: possibly used also to prevent any solid matter of too large dimensions entering the tube.

The tube, a modification of the tongue, is horny in its structure, sharp pointed and solid at the end; so that it may be pressed firmly against the bottom of the wound, without risk of being stopped up: the blood flowing through a hole like the eye of a needle, which passes through the tube, at a distance from the point equal to about the diameter of the tube.

MONTREAL BRANCH ENTOMOLOGICAL SOCIETY OF ONTARIO.

The Eighty-second meeting of this Society was held on the 12th April last, at the residence of H. H. Lyman, Esquire. Three gentlemen were proposed for membership, and some interesting notes of the early appearance of insects

this year were placed on record. Mr. Lyman laid before the meeting a "list of the Lepidoptera taken by Mr. Robert Bell in the Northwest Territory," which was noteworthy as showing the extensive distribution of some of our Canadian butterflies; and some time was very agreeably spent in examining his copy of "Abbott & Smith's Insects of Georgia," a standard work, and very finely illustrated.

Correspondence.

To the Editor of the SPORTSMAN AND NATURALIST

DEAR SIR,—I was astonished this week to see it stated in one of our city papers that one thousand brace of black duck had been sold a few days ago on the Montreal market. If this item of news is correct, it indicates a most lamentable state of things, calling loudly upon all sportsmen, and all others interested in the proper and reasonable preservation of game—and what good citizen is not?—to use their most strenuous and immediate efforts for the effectual prevention—as far as legislation can do so—of the killing of black duck, mallard, grey duck, and wood-duck in the Spring. With the exception of teal, all the above-enumerated species are protected in Ontario for the period between the first of January and the fifteenth of August. The law in the sister Province should be the same. Now that the Quebec Legislature is in session, I hope something will be done to prevent the suicidal policy of slaughtering and exposing for sale such splendid birds as black duck in the breeding season, too, when the females are laying their eggs. Admitting that amongst the two thousand black duck reported to have been sold in Montreal, there were one thousand females, and that each of such females, if unmolested by the worst enemy of game, the market poacher, would be able to bring up to maturity, at the very least, five of her brood, and many rear double this number, instead of two thousand, we have actually six thousand black duck improvidently and wantonly destroyed in the breeding season. This kind of work should be tolerated no longer in a civilized country. Even were there no law to control him, no civilized white man ought to be guilty of killing game in the breeding season. This kind of miserable work should be left to the Indian

who will soon have the plains to himself for anything he ever did to protect the game of the country. Trusting that during the present session of the Quebec Legislature, the legitimate sportsmen of your Province will be able to accomplish something towards assimilating the Game Act of Quebec with that of Ontario, more particularly as respects deer, wildfowl, snipe, woodcock and ruffed grouse.

I am, yours truly,

WILLIAM P. LETT.

Ottawa, April 29th, 1881.

THE ROBIN.—*Turdus migratorius*.

MR. EDITOR,—It gave me much pleasure to read the statements by my friend Mr. Saunders of London, in regard to our insectivorous birds. I am glad he has made these especial published observations, as they agree very closely with the same variety of scientific remarks made by Mr. Riley of Missouri. Nevertheless, much may be said in direct contradiction and with equal truth. As to Mr. Saunders' remark that *Turdus migratorius* is a very mischievous bird, I cannot agree, as I know to the contrary. Nevertheless, this is not the idea I wish to introduce. Mr. Editor, did you ever eat a robin? If not, you have a great pleasure ahead. I have eaten many, and am only sorry that I cannot procure them all the time. They are really a delicate morsel at breakfast, and well worth the trial. I do not care to shoot them in Spring, but after the first of August, when Woodcock come in, I let them pass after killing sufficient for a dish. Try some and then give your opinion. Thousands are sold in New York, and other American cities, for a few cents each. If I remember rightly, about 10 cents a pair, is what I paid for them in New York. Before cooking, I should recommend them to be plucked and drawn, as the feathers and the "innards" are as well removed. Then get them nicely fried in butter for ten minutes. Serve on toast; and any one of reasonable desires must be content. I think it strange that this bird, as well as many species of snipe and plover, are not included in the game law, as they are well worthy of protection. I moot this point, and being an enthusiastic sportsman, I sincerely wish it would be attended to. You mention a delegation to go to Quebec about the Game Act. Would it not be as well to consider the other birds that could be easily included, and that sportsmen seldom allow to pass without bagging.

J. H. GARNIER.

Lucknow, Ont.

WHOLESALE SLAUGHTER OF WILD DUCKS.

SIR,—In reply to "Hammerless Greener's" letter published in your February number, I beg to say there are several legitimate sportsmen living in the neighborhood of Lake St. Francis, and that Soulanges County has just sent a petition to the Commissioner of Crown Lands for Quebec, signed by J. P. Lantier, M.P., W. Duckett, M.P.P., and seventy three of the most influential people in the county, praying that the wholesale slaughter of wild ducks by American "pot-hunters" be put a stop to. Where the greatest number are killed is not in the Province of Quebec; it is a few miles above the line, at Currie's Creek, in the County of Glengarry: which county, I hope, will also send in a petition to the Commissioner of Crown Lands for Ontario.

Yours faithfully,

St. Polycarpe, Q., } T. W. W. G.
April 26, '81. }

SIR,—The Fish and Game Protection Club have an advertisement in your Journal giving the names of Office-bearers, &c., and intimating that notice of infractions of laws for the Protection of Fish and Game should be sent to the Secretary. Your correspondent E. D. W. has not taken this course; had he notified the Secretary of illegal netting which he alleges takes place at Beauharnois, giving date and names of the offenders and witnesses, the case would have been taken up at once. It is impossible for the Club to keep men at every spot where fish may be illegally taken: the most they can do is to prosecute such offenders as may be reported to them, with sufficient information as to witnesses, &c., to secure a conviction. They invite E. D. W. to send his complaints direct in the future to the SECRETARY.

SIR,—Having tried long-range shooting at my "Force gauge" with two 12-bore guns, I send you the result, thinking it might be of interest to your readers:—

12-BORE.—WEIGHT, 7 $\frac{3}{4}$ LBS.

Charge, 3 $\frac{1}{2}$ drams powder, 1 $\frac{1}{2}$ oz. No. 4 shot, (162 pellets to the ounce.)

Distance from Gauge.	Pellets on gauge 5 in. diameter.	Force per Pellet.	Final velocity ft. per sec.	Penetration. Number of sheets.
40 yds.	4	3.50	567	27
50 "	2	2.90	169	17
60 "	1	2.17	350	10
70 "	Not fired at this range.			

12-BORE.—WEIGHT, 8 LBS. 10 oz.

Charge 3 $\frac{1}{2}$ drams powder, 1 $\frac{1}{2}$ oz. No. 4 shot, (172 pellets to the ounce.)

40 "	8	4.03	652	35
50 "	4	3.46	560	26
60 "	3	2.86	463	17
70 "	2	2.00	324	9

Same gun with 3 $\frac{1}{2}$ drams of powder, 1 $\frac{1}{2}$ oz. of No 7 shot (320 pellets to the ounce.)

40 "	7	1.60	519	19
50 "	5	1.23	393	11
60 "	3	0.76	243	6

I merely send the trial with No. 7 shot to show how rapidly the small pellets lose their velocity.

I am about to make a trial of different kinds of powder, viz., English, Canadian and American; if you think it will be of sufficient interest I will send you a report of the result.

Yours truly,

12-BORE GREENER.

Lachine.

SIR,—In reply to your query as to how far inland Shad have been known to go? I will state for the benefit of your readers, that fine specimens of these fish have been taken as far up the Ottawa as the "Long Sault." Never, to my knowledge, beyond this point, as the wild stretch of rapids known by that name interpose a barrier to further ascent. Consequently the fish assemble in shoals, in an inlet, on the Ontario shore, and a rich season of sport is annually enjoyed by the "few" who know of this piscatorial eldorado.

J. D. F.

Montreal, 5th April, 1881.

NOTE,—Since the receipt of the above we have ascertained that Shad visit Lake Ontario. Our correspondent's letter is interesting in regard to the farthest point reached by the fish in the Ottawa river. How they reach the "Long Sault," at the foot of Lake Temiscamingue, 233 miles above the city of Ottawa, is a matter of which we are anxious to have more information. Are there two "Long Saults" on the Ottawa? We make this enquiry because our correspondent speaks of "the Ontario Shore," leaving one to believe that a "Long Sault" occurs on the Quebec side of the river.—Ed.

Herpetology.

LIST OF REPTILIA OF ONTARIO.

To Reptiles that I have not seen, or those reported to me on good authority, I have affixed a mark of interrogation (?). All the others I have recognized, and they are in my cabinet. I do not consider this list by any means perfect, and other forms will doubtless be added by scientific research. I solicit exchange from Herpetologists in the Dominion, and neighboring States of America, as I have a fine lot of Ontario duplicates in the best condition for this purpose. I wish to obtain reptilia, of all classes, from the Province of Quebec, as the difference of climate is of great importance in regard to colouration. This is remarkable in the genus *Eutania*; whose geographical distribution, with other causes, seem to exert an extraordinary influence in regard to tintings and colouration, not alone in Canada, but wherever they occur. There is, perhaps, no branch of natural history less studied in a scientific manner than Herpetology. Here we have an enormous field for research, and scientific enquiry, and Ontario seems as rich in species and genera as any other country of similar extent.

I.—TESTUDINATA.

Family EMYDIDÆ.

- 1—*Chelopus insculptus*. Wood Tortoise. Common.
- 2—*Nanemys guttatus*. Speckled Tortoise. Common.
- 3—*Emys meleagris*. Blanding's Tortoise. Very rare. One specimen captured on Lake St. Clair, by Mr. Buck. Now in my cabinet.
- 4—*Chrysemys picta*. Painted Turtle. Common along the southern shore of Lake Ontario, and in every pond to the south. The most handsome turtle.
- 5—*P. var. marginata*. I have a variety that approaches that described by Jordan.
- 6—*Malacoclemys geographicus*. Map Turtle.

7—*M. pseudo-geographicus*. This is merely a variety, noticeable in the carapace, and seems to be a distinction without a difference.

8—*Aromochelys odoratus*. Musk Turtle. Stink pot; found in Lakes Erie, and St. Clair; rare.

9—*Chelydra serpentina*. Snapping Turtle. Found throughout Ontario. Used for making soup, and in some localities much sought after for this purpose.

10—*Aspidoneustes spinifer*. Common Soft-shell Turtle. Lakes Erie and St. Clair, scarce; sometimes taken on hooks. Considered a delicacy. One was taken some years ago, in the Ottawa River.—Ed., rare.

11—*Amyda mutica* (?) Leathery Turtle. Although I never saw this species, yet there is no doubt that it exists as frequently as the preceding in Lakes Erie and St. Clair.

II.—LACERTILIA.

Family SCINCIDÆ.

- 12—*Eumeces fasciatus*. Blue tailed Skink.
- 13—*E. septentrionalis*. Northern Skink.
- 14—*E. anthracinus*. Coal Skink. I captured these in Tilberry township, Co. Kent. They may be considered the same species; the young being the darkest. Specimens I possess from North Carolina of *E. anthracinus*, and the others are not distinguishable from my specimens from Tilberry.

III.—OPHIDIA.

Family COLUBRIDÆ.

- 15—*Heterodon platyrhinus*, var. *niger*. Hog-nosed Snake. Blowing viper. Puff-adder. Captured near Toronto by Prof. Montgomery. A well marked specimen, though small; also reported near Port Hope and other places.
- 16—*Nerodia sipedon*. Water Snake. Water Adder. Black Water Snake; common.
- 17—*N. erythrogaster*. Red-billed Water-snake. This is a scarce species. Lake St. Clair.
- 18—*N. niger*. Black Water Adder, B. & G. I deem it to be the male of the *sipedon*, and it is now generally rejected as a species.
- 19—*Regina rigida*. Stiff Snake. Rare. Captured by Mr. Buck, at Mud creek, Lake St. Clair.

- 20—*R. leberis* (?) Leather Snake. Reported by several parties, and although I never saw a Canadian specimen, yet it has been identified by Mr. Smith, of Ann Arbor, as being in Michigan. Reports most probably correct.
- 21—*Storeria occipito-maculata*. Red-bellied Snake. Not very rare. Captured in Kent, Bruce and Huron counties, and reported from Owen Sound.
- 22—*S. DeKayi*. Little Brown Snake. Found all over the western portions of Ontario.
- 23—*Eutainia saurita*. Ribbon Snake. I captured one twenty-two inches long in Bruce county; the only Canadian specimen so far examined by me.
- 24—*E. radix*. Hoy's Garter Snake. I captured several young specimens on St. Clair Flats.
- 25—*E. sirtalis*. Garter Snake. This species is considered the typical Garter Snake. I got specimens in Dover township, but never captured it farther north. Not very common.
- 26—*E. dorsalis*. Striped Garter Snake. The best known variety; everywhere abundant. The best marked specimens I have yet seen were procured near Toronto by Mr. W. Brodie.
- 27—*E. ordinata*. A variety with square spots on the sides, seemingly the young of *dorsalis*.
- 28—*E. ordenoides*.
29—*E. parietalis*.
30—*E. vagrans*.
31—*E. elegans*. } Varieties with more or less red markings on the sides. Generally found in marshes or low lands.
- I have captured all sorts of gradings and shadings of coloured specimens around Lake St. Clair. I have also received a few well marked *parietalis* from Mr. John McMillan, Magnetewan, Muskoka.
- 32—*E. Pickeringii*. I have one or two specimens from Mitchell's Bay, Co. Kent, that approach closely to this species or variety, as far as blackness of colour is concerned.
- 33—*E. obscura*. A variety without dorsal stripes. Scarcely admissible even as a variety. The side stripes are generally very obscure.
- 34—*Bascanium constrictor* (?). Black Snake. Gananoque. I have not as yet seen or procured one, but doubtless it exists there among the rocks.

- 35—*Scotophis vulpinus*. Fox Snake. Kent Co. I saw one which measured 7 feet 11 inches, captured by Mr. C. Dusten, and I have one 6 feet 3 inches, taken by Mr. Buck, of Mud creek. Not common. This is the largest and most powerful of our Canadian snakes, at the same time, one of the most innocent, harmless and timid.
- 36—*Cyclophis vernalis*. Grass Snake, Green Snake, Spring or Summer Snake, &c. A well known and beautiful little creature.
- 37—*Diadophis punctatus*. Ring-necked Snake. Not rare in Huron and Bruce counties in damp woods.
- 38—*D. punctatus* var. *amabilis*. I have such a specimen which seems to be the young of the last (*D. punctatus*) and admit it in deference to Mr. Cope, though doubtful of it being worth consideration.
- 39—*Ophibolus doliatus* var. *triangulus*. Milk Snake, Chicken Snake, House Snake, Chain Snake, &c. A well-known species.

Family CROTALIDÆ.

- 40—*Crotalus horridus*. Banded Rattlesnake. Rapidly becoming extinct. I saw one killed on the mountain a few miles east of Hamilton in 1859, and one in 1873, captured not far from Niagara. The measured about three feet each.
- 41—*Crotalophorus tergemina*. Massasauga. Prairie Rattlesnake. I saw the decaying remains of one in Tilberry marsh. The rattles were gone, but having no means of carriage, had reluctantly to leave it. Not rare formerly along Lake Erie, although now exceedingly scarce.

IV. BATRACHIA.

ANURA (Family Tailless Batrachians)

RANIDÆ.

- 42—*Rana helecina*. Leopard Frog. Everywhere.
- 43—*R. pulustris*. Pickerel or yellow-legged frog. Common.
- 44—*R. clamitans*. Green Frog. Common.
- 45—*R.* var. *cæruleus*. I introduce this as a local variety. I captured several with a deep indigo head, but now changing in alcohol to a dark greenish brown.
- 46—*R. Catesbeyana*. Bull Frog. Common.

47—*R. var. rufus*. I introduce this as it is a larger variety; copper brown with no trace of green on the body or head; has a hoarser voice, and keeps more in deep marshes. I obtained specimens on St. Clair Flats and in Bruce county. This variety is well marked.

48—*R. sylvatica*. Wood Frog. I emphatically deny that this species has any connection with the European *R. temporaria* and it is not a variety but a totally distinct species. On comparing it with European specimens in my Cabinet there is nothing whatever in common, and their life history is entirely different.

49—*R. sylvatica* var. *Cantabrigensis*. Specimens I have from Massachusetts, Michigan, &c., differ little from Canadian. Rare.

50—*Pelobates Americanus*. The same as *R. circulosa*, &c. Hoosier Frog. It is not a true *Rana*, nor can I admit it as such at present.

51—*Hyla versicolor*. Common Tree-toad. Common. South. Disappearing gradually northward.

52—*H. Andersonii*. I have found half-grown, and nearly adult *H. versicolor*, almost pure green, with a chocolate brown band obscuring the eye. Generally found among green herbage, and difficult to observe.

53—*H. Pickeringii*. Pickering's Tree-toad. One of the earliest frogs to croak.

54—*Acris Gryllus* var. *crepitans*. Cricket Frog. The most noisy of frogs for its size. Common.

55—*A. gryllus* var. *gryllus*. A variety here of which I have two specimens I can only relegate to this. Taken near Lucknow, Co. Bruce, May 23, 1879.

56—*Bufo lentiginosus* var. *Americanus*. Toad. Common. Very useful to destroy caterpillars and insects.

57—*B. lentiginosus* var. *niger*. I have a deep black coloured variety. Young generally blacker.

URODELA—(Tailed Batrachians).

PLEURODELIDÆ.

58—*Diemyctylus viridescens*. Spotted Triton. Newt, &c. Common.

59—*D. mineatus*. Red Eft. Scarce.

60—*Desmognatus niger*. Black Salamander. Captured and presented to me by Mr. Brodie, Toronto.

61—*Plethodon erythronotus*. Red-backed Salamander. Common.

62—*P. var. cinereus*. Not very rare.

Family AMBLYSTOMIDÆ.

63—*Amblystoma punctatum*. Large Salamander. Common.

PROTEIDA.

64—*Necturus lateralis*; *menobranchus* (Baird), Mud Puppy. Taken by me in Lakes St. Clair, Huron, and Erie, and near Toronto; not very rare in the Don River.

65—*N. Huronensis* (Spec. novum). About a foot long; deep sooty-brown on back, lighter on belly. Gills bushy, brown, end of each orifice red, in three rows. Throat white. Vent reddish. Upper jaw hooked over lower; eyes black, not prominent. I have only obtained two specimens in streams during twenty-five years. Very rare. I venture this as a new species.

I trust to find time to send a history of the English frog, *Rana temporaria* in an early issue of the CANADIAN SPORTSMAN AND NATURALIST, and to demonstrate clearly peculiarities completely at variance with the form of *R. sylvatica*, which I think will prove their total specific difference. Any gentleman who may have a reptile of which he does not know the name, would confer a great favor by sending it in a box by mail, and after examination, I will return it with thanks. By this means, perhaps, new species, or varieties may be discovered in the Dominion.

JOHN H. GARNIER, M.D.

Lucknow, Bruce Co., O.

PROTECTION OF GAME.

The following address is from the pen of Dr. E. S. Holmes, President of the Michigan Sportsman's Association:—

“It has been asserted that Sportsmen's Associations are purely selfish; that the object of

game protection is to prevent the general public from the enjoyment of the health and recreation of taking, and the nourishment of partaking of wild game. Without pretending that sportsmen are possessed of more disinterested benevolence than the rest of mankind—without asserting that they labor more assiduously for the public good than those who do not enjoy the healthful recreation of forest, field, and stream sports with rod and gun—it is an unquestioned fact that the accomplishment of the objects for which game protection and sportsmen's associations are organized will promote the welfare of all classes of the community. Our object is to treat the wild game with which our State was once liberally supplied, as a wise husbandman would treat his domestic animals, so as to continue and increase the supply, that as population increases there may be an occasional full meal for all. We desire to prevent the destruction of game during their breeding and rearing seasons, and to prohibit all murderous systems of slaughter. We wish to prevent the killing of all kinds of animals when their flesh is unclean, unhealthy, and therefore not fit to eat. As a *sanitary measure*, this object of our Association should commend itself to every well-wisher of our race. It is impossible to tell how many of the insidious diseases that invite death to our dwellings, and clothe the people with the weeds of mourning, are produced by eating of the flesh of animals killed when they are unclean. Yet that sickness is so caused is patent to every one who has given this subject careful attention. It is a question worthy of consideration whether further legislation to prevent the sale and use of unclean meats is not demanded.

Again, as a *food supply measure*, the protection of game, quadrupeds, birds, and fishes, is one of vast importance. I do not need to read you, gentlemen, statistics to prove the point. The annual product of field and stream, lake and forest, provided free of cost by a bountiful Creator, is so important an item of the food of the people that an immediate stoppage of that supply would almost, perhaps quite, cause a food panic. During the open season (would it were only then) there is hardly a table in the land that is not frequently furnished with healthful nutritious game and fish food. How to continue and increase that supply is the question before us—the problem to be solved.

Then there is another reason why we should so manage as to increase rather than diminish

our stock of game and fish scarcely less important than those mentioned. And that is the healthful recreation enjoyed in its pursuit and capture. Everybody needs recreation—rest; and everybody will have it in some shape, and it is right, for nature demands it. Now, as there is no recreation more beneficial, and less harmful than true sportsmanship, or the pursuit of field sports with rod and gun, are we not engaged in a humane work while seeking to maintain the supply of game animals so as to make such sport possible? Mere out-door exercise without some intelligent pursuit, something in itself innocent to stimulate the mind, is of but little value as a recreation. All these are supplied in the pursuit of sportsmanship. The sportsman has to study the natural history of his quarry, and is frequently called upon to make the best use of his reasoning powers, as well as skill, in order to compass the capture of the wily object of his pursuit. I believe if there were no other reason for the protection of wild game than the incentive it gives to healthful out-door exercise, this alone would be sufficient to demand the most carefully considered legislation on this subject, and the most strict enforcement of the laws. These are but few, and perhaps not the most important, of the reasons that might be mentioned to show that the object for which sportsmen's association are organized—if accomplished—would promote the welfare of the people of the whole State. The mission of this association is to educate the people as to the habits of game animals of "fur, fin and feather," the best time and manner of capturing them, the correct names—both popular and scientific—by which they are, and should be, known; to teach the value of game birds as insect destroyers, as well as the usefulness of insectivorous birds that are not classed as game, in preventing the destruction of the crops of the husbandman by noxious insects; also to teach the farmers that true sportsmen are their best friends, for the above-named reasons; and to show by our actions as well as by precept that there is a vast difference between sportsmen and poachers, who slaughter with gun, trap and net, at any and all times, not only game but any other useful animal that may come within their reach.

The true sportsman is engaged in a work of benevolence and good will. Let us all be careful to so conduct ourselves at all times as to command the respect of all our fellow citizens.

THE
CANADIAN SPORTSMAN
AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, JUNE 15, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 6.

MONTREAL, JUNE 15th, 1881.

Vol. I.

We wish to publish the Game Laws of New Brunswick and Nova Scotia. Correspondents in the above Provinces would do us a favour by addressing authentic copies to 806 Craig Street, Montreal.

THE NATASHQUAN.

The river bearing the above name, meaning "where the seals laid," enters the sea on the north shore of the Lower St. Lawrence, some distance below the settlement of Esquimaux Point, and almost opposite the north-east end of the Island of Anticosti. The harbour of Natashquan is 244 marine miles from Gaspé Basin, and 372 from Quebec. The entrance to the river is about four and a half miles east from the settlement, and the whole of the coast at this place consists of sand. Iron sand also occurs in many places in abundance. It appears to us that the Natashquan has been during early ages, a great drift outlet from the far interior, as on its banks for twenty miles inland, the iron sand can be found at this day. The Chief of the Mountain Indians informed us that this river decreases in width and depth as one proceeds north; it branches off into a number of small rivulets, and that iron sand is seen far in the interior. Its estuary has doubtless undergone many early changes, and we are told they still continue. The channels of the river are greatly encumbered by sand, making it difficult for an ordinary keeled boat to reach the camp near the falls. This was the case in 1867, when two men were required to pole the tortuous stream. Half way between the estuary and the fall, the river is blocked up by three long islands, producing a strong current on the eastern channel. The fall is not more than nine feet, but on account of an almost squarely formed island above it, the force of water is great. It was the daring attempt to leap this

nine feet fall in a canoe, that cost Mr. Astley his life last summer. During the year 1867, only one salmon netting station was allowed by Government, and it placed in salt water one mile west of the Hudson Bay Post. We are now informed that there are nine or ten salmon nets placed in the estuary; two from the large sand island in the centre of the river outlet; one a short distance west of the Post, and three above it on the same side, and four from the opposite bank. Now we believe this is overdoing a river, which was always considered a good surface fishing one. It is therefore no wonder that *Salmo salar* is becoming scarce in this wholesale dry-salting, smoking and tin-canning age. The Natashquan from its coast-arenaceous situation, and wide extent of estuary will always be a good salmon river, but many agencies are at work to destroy its prolific proficiency; for instance, during our visit we made a charge before Commander Fortin against the Indians then camping near the Post, to the effect that when they depart for the north in August or September, up the Natashquan, they reside close to the salmon spawning grounds, and spear the fish indiscriminately. The speared salmon are spread open, dried, smoked, or formed into heaps in the woods for future use in case of want, or not being successful in the capture of caribou; but should they be fortunate in obtaining plenty of the latter, these heaps of speared salmon are not required, but are allowed to rot or become food for Labradorian quadrupeds. The Chief on being asked if the charge was true, answered that it was perfectly true; that he had no control over his people at this time. He honestly stated they speared the salmon to revenge the Government for taking from them the liberty of fishing the rivers when visiting the mission. What is to prevent these Mountain Indians, who range the coast from the Saguenay to

Blanc Sablon, from acting in like manner? If this system of destruction has been carried on since 1867, we cannot wonder that salmon are scarce. If the salmon entering the northern rivers were allowed to carry out natural laws, the Labradorian spawning grounds would ultimately attain their native fruitfulness, and the surface and estuary net-fishing in these rivers become the most celebrated in the world. When we visited Natashquan there stood an old dilapidated shanty opposite the pools, on the beams of which were recorded the fishing scores of the gentlemen who were there on previous years. To day it has a camp building almost equal to those on the Godbout or Moisie.

THE MONTMORENCY.

A good Brook Trout river entering the St. Lawrence about six miles east of the city of Quebec, where its waters fall from a height of two hundred and fifty feet, known as the "Falls of Montmorency." The locality is historical and a source of attraction to tourists and others visiting the ancient capital. About two miles above the "Falls" the scenery is primitively grand; limestone rock margins its banks; here it is formed into "natural steps," about a foot in thickness, and for half a mile they recede one above the other to the height of twenty feet, as regularly as if made by the hand of man. On the right bank, there is a terrace of similar rock, a short distance above the present bed of the river, retaining evidence that long before the era of civilization, and while the limestone was in a soft state, a powerful stream passed over it, as indicated by the presence of deep pot-holes containing stones formed globular by the friction of the water. In the woods adjacent, are marks of early agriculture, resembling plough-ridges, probably the work of troops encamped in the locality during the war. Further up are the "Sables," where the rocks are covered with sand rolled down beneath the torrent of ages. From this point upwards there

may be found some good Brook Trout, certainly when the river is low in June. It is considered a good day's fishing to wade from the "Sables" to the "Three Falls," near the parish of Laval. If a Québecer goes for two days, the first start is generally in the vicinity of the "Sables;" he wades the stream as far as "Moore's," resting for the night, and returning next morning fishing down with the current to the "Sables," leaving the latter place at seven o'clock, and arriving at Quebec about ten p.m. There are some deep cool pools in Laval, parish of Montmorency, and the fish are of larger size as one proceeds towards the "Beaver Meadows," further north. The river is an outlet of Snow Lake, a large body of water in the northern portion of the County of Montmorency. The Lake is said to contain large trout, commonly called *lunge* or Lake Trout, which are generally fished for through the ice in winter.

FISH PLANTING IN LAKE ONTARIO.

The employes of the Government Fishery Department at Newcastle, Ontario, are alive and at work. It is stated that about 16,000 young salmon trout and 3,000 Californian salmon fry were placed in the lake a short time ago. The fishes are planted, indeed, at the risk of their lives, because the little creatures are not strong enough to take care of themselves, and it is possible, where there are so many pike, bass and other ravenous fishes and black water snakes, that the result of the planting will never be seen again. Yet, we are told by the knowing ones of the Department that each of these fishes will weigh from four to seven pounds at the end of three or four years. It is our wish to encourage fish breeding, and to see that every food fish indigenous to the Dominion should have proper facilities to propagate its species. There are many existing natural obstacles placed against the propagation of salmon in this country, which the Government should make efforts to take away. We are satisfied regarding the

utility and good results derived from salmon breeding in the neighbourhood of the sea, but placing young fish in a large inland bay or lake, where the water is swarming with enemies, is a blind proceeding, producing not one scientific result; it is actually absurd. Almost all the fish will be wasted, and the few that survive will doubtless leave the dangerous waters, never to return again. Have we not already proved that shad pass annually from the Gulf to Lake Ontario, and by so doing shewn that the lake is not land-locked to fishes which require a change of water? Therefore, the fact that shad pass up the St. Lawrence to Burlington Bay, is strong proof that salmon hatched on the north shore of the lake are not likely to remain behind, while they can find their way to the sea. If this is not the case, what has become of all the salmon hatched year after year at Newcastle? What benefit has the country derived commercially from this source to make up the annual outlay of money to sustain this establishment?

WILD RICE.

The cultivation of Wild Rice has been to a great extent successful when undertaken in the inland waters of Western Canada, where it is partly a native, and now it may be found in ponds, lakes and rivers in Ontario. We have no available record of how far north this aquatic plant or cereal can grow, but it seems extraordinary that in the Province of Quebec no attempt has been made to experiment with its seed. On the British side of Lake Champlain there are many available localities for the introduction of wild rice seed, and although we think it will not grow north of latitude 46.50, the seed should be sown in places at first south of the St. Lawrence, where, if it succeeds, and becomes acclimatized to the combined waters, then the good localities on the north side could be tried. It induces the presence of all kinds of wild water fowl in the autumn. In the west it grows in water six or eight feet deep, and the

red-winged blackbird, ducks and waders resort there and afford fine shooting. Sportsmen's Clubs are using every effort to extend its growth in Canada. It is also said that where it grows prolifically, it has been cut before seed-time by manufacturers, who find its fibre, taken from the under surface of the water to a depth of six or seven feet to be very valuable. It affords, it is said, the strongest kind of fibre known for making bank note parchment paper.

GOOD ANGLING PROSPECTS.

We have been informed since the Fishery Department at Ottawa, and the Fish and Game Club of the Province of Quebec stopped net fishing, that Maskilongé, Black Bass, Pike-perch, and other good food fishes occur abundantly in local waters this year. Of course, the abundance of the fishes is mainly attributed to this mode of preservation, which may be the case, but we are aware that fish, like terrestrial animals, have an occasional prolific specific year. Be this the case or not, there is a prospect that anglers will have good sport this season.

THE QUEBEC MARMOT.

(*Artonys empetra.*)

This quadruped, a rodent, allied to the ground squirrel (*Tamias*), does not occur to our knowledge on the Island of Montreal. It is, however, common in many other portions of Canada. The following remarks are made from one which we have had from the Eastern Townships. It is larger than the Alpine Marmot. Its head is smaller in proportion, and round; its ears are very short; its cheeks are ash gray, and its nose black. The fur is of a curious roan colour from the hairs being gray beneath, black in the middle, and white at the tips; the belly and legs are of a high-toned fawn, approaching to orange; the toes are black and naked; the tail short and rather bushy. This species inhabits Hudson Bay and the northern parts of Canada. It is a solitary animal,

burrows in the earth, but it ascends bushes and trees in search of buds and bark on which it feeds. It also eats certain species of coarse grasses, which grow near water. Indians capture it by pouring water into its holes. The flesh is considered delicate when the animal is fat. It may be a delicacy to the aborigine, but to the white man, its strong flavor is against it. It is easily domesticated. The teeth are strong, and formed similar to those of the Beaver. The linings of the mouth indicate rudiments of cheek pouches. When annoyed it produces a hissing noise. Milk pleases these animals greatly, and they lap it with sounds of pleasure.

GAME IN THE NORTH-WEST TERRITORY.

Last April, Messrs. Bird and Ballendine started for four days on the plains in pursuit of feathered game. The former shot forty-three geese, three swan and fifty ducks. Mr. Ballendine bagged the same amount of geese and swan, but did not care to waste shot on ducks. One of the swans shot by Mr. Bird measured seven feet seven inches from the tip of the wings; four feet three inches from the beak to tail, and weighed twenty-five pounds. It was sent to be stuffed for Chief Factor Clarke of Carleton. What a grand country for the sportsman.

THE BRITISH SKY-LARK IN AMERICA.

Several years ago, a number of Sky-Larks were liberated on Long Island, U.S., with the object of acclimatizing the birds. Nothing further was seen of them until early in May last, one was heard by Mr. John Burroughs, a writer for *Scribner's Magazine*, who says that he sees no reason why the British Sky-lark should not thrive in America as well as in Europe. Acting on this suggestion, Mr. Charles R. Rowe, of Cornwall, England, an enthusiastic admirer of Mr. B.'s writings, has sent him a number of Sky-larks which arrived safely in New York, and have been forwarded to Mr.

Burroughs at Esopus-on-the-Hudson, where they will be set free. The Editor of this journal contemplates having a pair of British Jackdaws sent out this summer. When this bird is properly domesticated, it is doubtless mischievous and a thief, but with these exceptions we will be compensated by its odd tricks.

MONTREAL BRANCH, ENTOMOLOGICAL SOCIETY OF ONTARIO.

The Eighth Annual Meeting of this Society was held on the 10th of May. The following gentlemen were elected to office for the ensuing year :—

President—Mr. H. H. Lyman, M.A.

Vice-President—Mr. William Couper.

Secretary—Mr. George J. Bowles.

Curator—Mr. George Bowles.

Council, Messrs. Robert Jack (Chateauguay Basin), F. B. Caulfield, and R. Burland.

Several new members were elected, and the Annual Report gave a satisfactory statement of the condition of the Society.

A paper entitled "Notes on some species of *Hymenoptera* occurring at Montreal," was read by Mr. F. B. Caulfield, and another on "Instinct in Insects," by Mr. G. J. Bowles. We regret that want of space prevents us from publishing these papers, but we are glad to say that the study of this interesting branch of Natural History—Entomology—is being zealously carried on by this Society, particularly as regards the insects of the Island of Montreal.

RESOURCES OF THE NORTH-WEST.

Professor Macoun of Belleville, Ontario, who delivered a lecture last March before the "Ottawa Field Naturalist's Club," on the Geographical Distribution of Plants and Animals of the North-west, enunciated an important law accounting for the well-known heavy crop of grain secured so far north, i. e., "the law of reproduction, which was wonderfully increased as plants approached their outer or northern limit. Hence, the cereals grown in the

districts alluded to, so near the extreme northern limit, were found to be more prolific than those grown anywhere else. Ordinarily on an ear of wheat grown in Ontario each fascicle contained but two grains. In Winnipeg they averaged two and a half, at Prince Albert four, and at Edmonton the wheat ears were found to average nearly five fascicles across the ear, extending the whole length of the head. When it was taken into account that the heads also increased in length it was not difficult to understand that the same number of stalks that would produce 15 bushels to the acre in Ontario would produce 25 bushels at Winnipeg, and from 30 to 40 bushels farther north. Speaking of the grasses found in the various parts of the country the Professor stated that there was no difference between the grasses grown under the eastern base of the Rocky Mountains and those found further east, commonly supposed to be inferior in quality. The only difference was that on the dry plains of the south hardly any grasses produce a large crop of seed, and from that cause the fodder afforded by the natural grasses was richer in nutriment equalling first class hay. He referred to the popular belief that cattle fatten on the grazing lands of Texas and warm districts in the south, which he characterized as a fallacy as shown by the custom amongst grazers of driving their herds northward to fatten. This was also in obedience to a well-known botanical and geological law, which provided that the farther north animals are found the greater their capacity for putting on fat. On this ground he was convinced of the great advantages possessed by the North West as a cattle raising country. The lecturer referred incidentally to the fuel supply of the North West, and ventured to say that there was untold wealth in the form of great peat bogs within forty miles of Winnipeg, the manufacture of which could be prosecuted with great convenience in that dry climate."

SCIENTIFIC REVIEW.

Osteology of *Speotyto cunicularia* var. *hypogaea*, and of *Eremophila alpestris*, by
LIEUT. R. W. SHUFELDT, U. S. Army.

The two birds above named, one the Burrowing Owl, which "occurs on the prairies west of the Mississippi, notably in the villages of species of Marmot Squirrels, the deserted burrows of which it occupies for the purpose of nidification. Perhaps no species in the great Order to which it belongs, have less limited

power of flight, none so habitually congregate together in certain localities and choose the open treeless country as their resort, and make their nests underground." Mr. Shufeldt exhibits expertness in being a correct comparative anatomist, as every portion of the skeleton of the bird is illustrated with great care; all portions of which are fully explained in the text. There are three plates on the structure of the Burrowing Owl. Also, the osteology of the Shore Lark (*E. alpestris*), a bird said to nest on the Island of Montreal, is illustrated. Mr. S. was fortunate in obtaining several hundred specimens in March, 1880. He says—"As they afterwards lay on the table of my study, one would almost have said before submitting them to careful scrutiny and examination, that not only was true *alpestris* represented, but *leucolama* and *chrysolaema*, described by modern writers. I have never seen the black pectoral crescent of this bird in the low position in which Audubon represents it in his work." Mr. S. has evidently identified but one species, *i. e.*, *alpestris*, and his description of the skeleton, simply reminds the student that of the several genera that go to make up the family *Alaudidae*, or Larks, but one genus has fallen to the lot of the North American fauna, and that the genus contains but one species, *i. e.* *alpestris*.

Correspondence.

SPORTING AND NATURAL HISTORY CAPABILITIES OF BELLEVILLE, ONTARIO.

SIR,—As I understand from your prospectus that the indication of favourable sporting and collecting localities is to form a prominent, as it will certainly be a valuable, feature in your serial, I believe I will be doing a kindness to many of my fellow sportsmen and naturalists by making them aware of the advantages offered to them by this locality. The city of Belleville is situated on the north shore of the Bay of Quinte, at the mouth of the River Moira. Hotel and private accommodations are to be had of excellent quality, and at most reasonable fares. The Bay swarms with fish,—pike, pickerel, (doré), maskilonge, black and Oswego bass, perch, lake trout, rock bass, sturgeon, suckers, cat-fish, sun-fish, herring, whitefish, and eels are taken from its waters. The bass are especially fine; I have taken them myself up to 3½ lbs. weight, and I saw one some years ago

taken by Mr. C. Pauli, gunmaker, upwards of 7 lbs. First-rate sport can be had on the "bars," within a circle of a mile* from the harbour mouth, and boats and boatmen, with all requisites can always be had. To the ornithologist Belleville affords a fine field for collecting; the neighboring woods afford shelter to various birds of prey, from the bald eagle down to the sparrow-hawk and shrike; the bay is the favorite resort of many ducks, loons, grebes, gulls, terns, and shore-birds, while the extensive marshes of Ameliasburgh, harbour herons, bitterns, mud-hens, snipe, rails, and other waders, and the golden plover frequents the commons in large flocks. Professor Macoun has collected during last winter and spring over 70 species of birds, a list of which I hope to be able to send shortly. About four miles below the city is Massasauga (Mississauga) Point, one of the most picturesque sites on our lovely bay. Here a large area is being fitted up as a summer resort, with a hotel and several detached cottages, and it is intended to place it in hourly connection with the city by a special steamboat. Here are also held the regattas of the Belleville Yacht Club. Having within its limits the terminus of the Grand Junction and Belleville and North Hastings Railways, Belleville offers every facility for visiting the mining and hunting districts of Hastings and Peterborough Counties, where the geologist can study the conformation of the Laurentian and Huronian series; the mineralogist can collect the iron, lead, copper, gold and other ores and minerals of this now celebrated region; and the sportsman will find deer and bear enough so exercise his skill upon with the rifle, and the woods alive with ruffed grouse (partridge), while the lakes and rivers swarm with fish of every description, from the lordly maskilonge and great lake and speckled trout, to the humble perch, and the despised cat-fish. Altogether, I do not know any place where the comforts and conveniences of city life can be so thoroughly combined with the enjoyment of country sport, as in our own little "City of the Bay."

JAMES T. BELL.

Belleville, May 25, 1881.

DEAR SIR,—I have read with very great pleasure the accounts given in your journal, by "12-bore Greener," of his trials at the target. I consider that Canadian sportsmen are much indebted to any one of their number, sufficiently spirited to take the trouble, and

incur the expense of making such reliable tests of the shooting qualities of "choke-bored" guns, with the various charges of powder and sizes of shot. With my Hammerless Greener, which is a No. 12, choked to No. 15, at 80 yards, I put 12 pellets of No. 6 American chilled "Tatham" shot, (almost as large as No. 5 English), into a foot square, and at 90 yards 7 pellets into the same sized target. This was with 3 drams of powder and one ounce of shot, and the penetration was sufficient, at both distances, to bury the shot out of sight in a dry pine board. I think, for general utility, handiness, convenience, *rapidity of ignition*, and unquestionable *rapidity of firing*, the hammerless gun is infinitely superior to the gun with hammers; and, within a very short time, amongst sportsmen, at least, must entirely supersede guns of the old style of construction. The hammerless gun of improved make is perfectly safe, handy to use in a boat or canoe, and when loaded is always ready. Having no hammers it can be put easily and conveniently into a water-proof cover, and in use the breech action can never become locked by the striker forcing its way through the cap and sticking there, as sometimes happens with hammer-guns. The irresistible force with which the tumblers are drawn back to cock, entirely obviates the chance of this difficulty occurring. In addition to the foregoing advantages, the facilities afforded for fighting and shooting amongst brush by the hammerless gun are unquestionable. Hammers may be ornamental, but in the face of hammerless guns they are entirely useless and superfluous. For the information of "12-Bore Greener," I may say, that in my one trial with half ounce charges of shot, although I had not the appliances for measuring the force and velocity of the shot, the penetration was eminently satisfactory.

Yours truly,

HAMMERLESS GREENER.

Ottawa, May 23, 1881.

P. S.—No sportsman of my acquaintance ever made a practice of shooting Robins. Small boys and thoughtless persons alone in this neighborhood are guilty of this indiscretion.

ENGLISH SPARROWS.

The question as to the desirability or non-desirability of introducing the English sparrow, *Passer Domesticus* into Canada has been not unfrequently discussed. My own opinion has always been adverse to such introduction,

and my principal reason, as a lover of birds, has been, and is, that the English sparrows drive away our own more charming native birds. That opinion has just been emphasized by the following incident. I was passing down one of our streets the other morning when I observed four birds in a state of great commotion on the ground, kicking up, in fact, an awful dust; the birds, being, as I soon ascertained, three English sparrows and one Chipping sparrow, *Spizella socialis*. The poor little native bird was being unmercifully attacked by the three more robust immigrants, and I verily believe would have been killed, but that my companion, a lady, begged to be allowed to rescue it by driving its aggressors away. For myself, I confess I should have been cruel enough to await the issue of the conflict for the purpose of exemplifying my theory, whereas now, instead of a charge of "wilful murder," I can only prefer that of "assault with intent."

VINCENT CLEMENTI, B.A.

Peterboro' May 9, 1881.

NOTE.—The House Sparrow, (*Passer Domesticus*) has been of good service since its introduction into Canada. Previous to its arrival in Montreal, it was almost impossible to keep down the millions of house-frequenting spiders, which during summer, festooned the interior of our houses, and exterior of outhouses with their webs. This nuisance is now lessened, as the bird relishes the spider, and whenever one of the latter shows itself, it is doomed. The acclimatized sparrow has besides adopted the flycatcher's system in obtaining its prey; it also imitates the woodpecker by holding itself with its claws and tail against a wall, picking from the interstices any insects lurking therein. Before the house sparrow was liberated in Montreal, an entomologist could, on a June morning's walk along the garden fences in the western portion of the city, pick up probably from twenty to twenty-five beautiful rare insects for his collection. This cannot be done now, as the sparrow destroys all insects whether he eats them or not. This is the only fault we have against him—that he makes no discrimination in his selection—he kills as many beneficial as injurious insects. We have seen

this pugnacious little bird attack the large Northern *Cicada*, holding it in its beak while the insect made the curious noise with its drums, which we frequently hear in the early part of September. The bird heard it, but the insect's noise was of no avail; the sparrow placed its foot upon it and picked it to pieces.—ED.

TENACITY OF LIFE IN BIRDS.

DEAR SIR,—Last fall, I received from the Manitoulin Islands, a living Eagle—the Gray Sea—*Haliaeetus albicilla*), to stuff. Wishing to kill it as quickly as possible, I procured a strong acid poison from a druggist, and gave it a dose said to be sufficient to destroy its life in a few seconds. After waiting for half an hour, I went out expecting to find it dead, but there he sat as upright as usual. I gave the bird a second dose and patiently awaited the result. It had no more effect than an evident disagreement in the appearance of water from its mouth. Then I gave it a large piece of meat covered with arsenic and retired to rest, expecting to find him stiff and ready to stuff next morning, but to my surprise, when I went to his cage, it stood as upright as ever, and looking none the worse. I had laudanum in the house, and it occurred to me that I could put him in a deep sleep; therefore I gave the Eagle one half ounce, which had no apparent effect. I then procured strychnine, of which I gave him a large dose; in a short time it took effect, and the strong frame which withstood the other poisons had at last to succumb; it swayed with violent convulsions, and as I stood looking on its agony, I felt that I was the cause, and guilty of a crime. A few weeks ago I had occasion to kill a great Horned Owl, (*Bubo Virginianus*), and remembering my former experience with the Eagle, thought to try a more speedy method. I took a revolver carrying a No. 22 cartridge, which I fired close enough to penetrate the centre of its body, and the only apparent effect it had was merely to tip him off his perch, which he afterwards regained. Four hours afterwards I found him still sitting there, appearing all right. I fired the second ball forcing him from his perch, which he did not afterwards regain, yet he lived two days afterwards. On skinning this bird I found that both balls passed through his body. On the 27th May last, I had occasion to kill another Horned Owl, and remembering my former unsuccessful experience I thought to give him a blow which would pro-

duce instant death. I prepared a sharp-pointed instrument, and with one stroke the point entered the brain to the depth of three eighths of an inch; even after this the owl lived over one hour. I would be pleased if some of your readers would suggest a more speedy way to kill large birds?

Yours, &c.,

R. B. SCRIVEN.

Gravenhurst, Ont.

NOTE.—The editor of this journal has had long experience with large living wild birds. The best mode and the quickest to destroy bird life, is pressure across the sternum. In this way the skin is not destroyed, and it dies without great pain or struggle.

OUR FOREST TREES.

CHESTNUT; *Castanea vesca*.—A large and abundant tree, valuable for its nuts and its timber. The nuts, though much smaller than those of Europe, are sweeter and more nutritious. Close observers say that the chestnut moth lays one egg in each bur, and thus they account for the fact that in a quantity of chestnuts, about one-third are found to be wormy. The timber is more used than formerly. Its durability has long recommended it for fence posts and rails, and of late years it is largely used in cheap furniture, and the interior wood work of houses. If to be varnished or oiled, the pores should be carefully filled.

AMERICAN HORNBEAM; *Carpinus Americana*.—A small tree, 20 to 30 feet in height, admired for its soft green foliage, which in autumn changes to bright scarlet and orange. The wood is white and solid and is used for mallets and levers.

LEVER WOOD; *Ostrya Virginica*.—This closely resembles the last in size and foliage. The uses of the wood are similar, but it is even harder and tougher, and it is often called "iron wood."

BUTTERNUT; *Juglans cinerea*.—A broad-topped tree, seldom more than 40 to 50 feet in height. The nut when half-grown makes excellent pickles, and when ripe, if carefully dried, contains a sweet kernel. The wood is light and durable, of a pale reddish color, and is used for making drawer fronts, coffins, gunstocks, and panels of carriages.

BLACK WALNUT; *Juglans nigra*.—This tree is less abundant in New England than the but-

ternut which it much resembles, in size, form, and foliage. The leaves are smother, and the fruit spherical, while the butternut is long and oval. In the States bordering the Ohio River, the Black Walnut reaches its greatest size and yields its valuable timber in its highest perfection. This when first cut is of a purplish color, but soon changes to a rich dark brown, becoming in some cases nearly black with age. It is beautifully shaded and admits a fine polish; and no other American wood is so largely in demand for furniture and ornamental wood work of every description. The rapid consumption of walnut lumber is rendering it every year scarcer and more valuable in the market. It has also been largely exported to Germany and other foreign countries.

ENGLISH WALNUT; *Juglans regia*.—This tree has been successfully introduced into New England, but is less hardy than our native species. Its well known nut is in constant demand.

BLACK BIRCH; *Betula lenta*.—This is the most beautiful and valuable of the birches. In early spring its long bright coloured tassels give it a pleasing appearance, and it is among the first to put forth its leaves. In the forest it often reaches a height of 70 feet. When standing alone its long hanging spray earns for it the name of the weeping birch. The inner bark of young shoots has an agreeable spicy taste and odor. The wood is easily worked, yet firm; is of a delicate rose colour and presents a handsome grain. It is in demand for cabinet furniture, and is sometimes called "American Mahogany."

YELLOW BIRCH; *B. lutea*.—This is a rather larger tree than the preceding, and when seen in perfection is almost as beautiful. The scaly bark in long rolls adhering, by the middle or one end, and adorned with mosses and lichens, gives to the trunk a unique appearance. Its wood, though of less value than that of the black birch, is often used for making chairs and bedsteads. Its resinous bark is the tinder of *northern voyageurs*, and a flame will shoot to the top of a lofty tree in a few seconds, lighting a wide circuit.

RED BIRCH; *B. nigra*.—This graceful tree is usually found bending over a stream, and in some sections of New England is known as the "river birch." Its usual height is 50 feet. The wood is compact and white, and is now but little used. The earlier settlers made spoons, bowls and trays of it, hence it was called by them "spoon wood."

(To be continued.)

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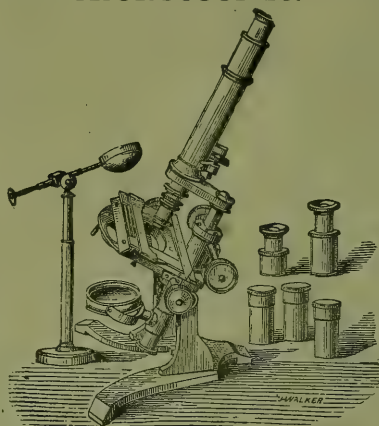
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THE
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AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, JULY 15, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 7.

MONTREAL, JULY 15th, 1881.

VOL. I.

TO ANGLERS.

We will publish the salmon scores of gentlemen fishing Canadian rivers this season, provided they are thoroughly vouched by one of the parties. We would be pleased to have scores already concluded sent to us in time for our August issue.

SALMON FLY CASTING.

Gentlemen fond of surface fishing, and who have had experience in the art of casting the fly, have, generally speaking, a fair knowledge of the sporting value of Canadian rivers. A rough estimate of the product of a river can be given by any one who for a few seasons has handled the rod on its pools. Those who have studied the salmon run of a river, can give a rough calculation of the number of fish entering it. Independent of the annual score of a good surface fished river, the average amount of salmon passing the pools to the spawning grounds can be ascertained. Ask any one of the proficient fishermen of the Department at Ottawa, the cause of the late scarcity of salmon in Canadian waters, and he will give you as much information on the subject as astronomers do regarding the late comets. There are several maritime rivers which should be a source of revenue to the Dominion, and they are evidently neglected by the Fishery Department. Not that alone, but it seems as if ignorance prevailed in regard to what constitutes a salmon river. We have an instance of this in the Trinity River near Pointe des Monts, which is delightfully situated, and on which a guardian has been placed for years past. The Trinity could not be leased for surface fishing, although a Government official made annual repeated attempts to fish it with the rod. It was abandoned. It is known to us that the Trinity River could be leased for years past, indepen-

dent of an expert fisherman's report that the river was worthless for surface fishing. The truth is that he could not hook a fish because he did not understand the proper mode to fish the Trinity, and the river was therefore thrown off the list of salmon rivers for years past. Residents on the coast know that it was good, or at least that Salmon entered it, therefore one of them made a proposition to the Fishery Department, offering to make a trial of the river if the Government would pay for his time in company with two Indians. The offer was accepted, and he proved that the Trinity was a fair salmon river, he having hooked fish with the fly on the first trial, while the expert sent from Ottawa could not get a rise. The way in which this is accounted for is simply that the casting of the fly cannot be the same on all rivers. We have been informed that this is a well-known fact to parties who have fished various rivers. For instance, the casting of a salmon fly on the Mingan is different from the mode of casting it on the Trinity, and since the parties who now lease the latter river, have discovered the style they sometimes procure as good sport as on other rivers on the same coast. Now, after deriving this knowledge, it occurs to us that there may be several rivers on both sides of the Lower St. Lawrence within the ken of the Fishery Department in which salmon enter that are rejected, because they were never properly fished. We have penned the above for the simple reason that we are aware that the maritime rivers are not properly looked after by the Fishery Department, and besides we consider that too much money is being expended on lake fish breeding, to the detriment of the salmon rivers, which should receive more attention. Take the Godbout for example; look at the improvements made on it by the present owner, who has profited by the outlay, by pleasure and comfort.

BIRD NESTING IN LABRADOR.

The Canadian coast and islands which margin the south-eastern portion of the Peninsula of Labrador, embracing the north shore of the Lower St. Lawrence, from Seven Islands to Blanc Sablon, near the North-West River, are interesting localities for the naturalist to visit. The aborigines, and their modes of life; the magnificent lakes and picturesque rivers; the fisheries of the white man, and the singular methods by which he obtains a subsistence on the rock-bound coast, are subjects claiming our attention at this age of human knowledge. Labrador was visited by Audubon before he issued his beautiful work on the Birds of America. He was aware that without a thorough ornithological knowledge of these northern bird breeding-grounds, his book would contain but few facts in addition to those given by Wilson and prior writers on our birds and quadrupeds. The naturalist who now retraces Audubon's footsteps along the Labradorian coast may fully realize the accuracy and truthfulness of this clever writer. In 1867, such was the object of the Editor of this journal, who went there to collect a series of bird eggs, and determine the species breeding on the coast. On the rocks surrounding the beautiful Bay of Seven Islands, the nests of several marine birds may be found. The greater portion being the Herring Gull, (*Larus argentatus*) and the White-winged Guillemot (*Uria grylle*). Proceeding towards Mingan, Leach's Petrel, (*Thalassidroma Leachii*) may be seen skimming over the stormy sea, but where the birds nest is only conjecture. There is a sand cliff between the Shel-drake River and the latter place, which may be occupied by these birds. The nesting habits of the Petrels being similar to the Sand Martin. Approaching the St. John River, a rock stands some distance seaward; it is called Isle Parquette; it is covered with earth and turf to allow numbers of the Arctic Puffin (*Mormon gracialis*) to burrow and form their nests. This rock is an extensive Puffin breeding-

ground. The Mingan group of Islands in the vicinity are heavily wooded, and nests of the common Eider Duck (*Somateria mollissima*), may be found occasionally. The nests of this species have been so frequently robbed by the people from the coast, that these islands are not now selected by the Eider Ducks for purposes of nidification. It is only on the islands below Point Esquimaux, which are not so easily accessible to man that the nests of these birds are found. The oölogist who can visit the group of islands between the latter place and Watsheesho, about the middle of May, will find plenty of material, but few species. There are abundance of Eider Duck's nests. Indeed, one small island visited by us, was almost covered with the nests of this species, and here we first found the nests of its congener the King Eider, (*S. spectabilis*.) It is in this region that one can realize the wildness of northern scenery. The diversity of the innumerable rocky islands which are surrounded by the sea; some bare and weather-beaten; others with trees of stunted growth, while a few tower to a great height, and are densely covered with wood. Such are the island homes of the sea birds. On one of these rocks called Table Rock, representing a platform about two acres in extent, we found the nest of the Black-backed Gull, (*Larus marinus*), and the Herring Gull (*L. argentatus*). It is a curious fact, that each of the rocky islands have been for centuries, the nesting-ground of marine birds, each species selecting and holding to this day its favorite island, where they produce a progeny forming a community of thousands each succeeding season. For instance, an island on which the Arctic Tern (*Sterna macroura*) breeds, cannot be invaded by any other species; the little creatures will fight even the larger gulls, and hold the locality to themselves. This is not the case with the Great Black-backed Gull, and the Herring Gull, the nests of which are frequently found on the same island, almost within three feet of each other. This is partially accounted for, and further to show the instinctive nature

of the same species which formerly bred in large numbers on the south coast of the Gulf, where their nests were annually robbed, the gulls as a last resource took the trees to build their nests, in order to be out of the easy reach of man. Several miles further down the coast between Watsheesho and Washshecootai, the rocky islands contain many fissures, and these are occupied by the Razor-billed Auk, (*Alca torda*), a bird which makes no nest. It deposits a single egg which is laid in a crevice. When searching for the eggs of the Auk, on several occasions the parent bird was found dead alongside of its egg. In every instance a slight wound was detected on the side of the head, behind the ear. We were afterwards informed that these birds were frequently destroyed by a species of weasel which inhabit the island. As we proceed further, the harbor of Kegaska is reached, below which stands the rocky islands of Musquarro, about five miles from Washshecootai Bay. Here the collector will find the home of the common Guillemot, (*Uria ringvia*). From this point northward this bird deposits its egg on any bare cavity it can find. These rocks are visited by men from vessels sent to collect them when fresh, and a large trade is annually made in the eggs of marine birds, which are thus collected and carried to the American markets for sale. The Indians, generally arrive on the coast at the time when ducks, gulls and guillimots are nesting. On their way to the Mission Church at Mingan, all the bird-frequenting islands are visited by them, and every fresh egg found is taken away and eaten. They also collect the down from the nests of the Eider Duck, which they generally sell at the rate of sixty cents per lb. We have slept on eider-down beds on the Labrador coast, each of which was valued at from sixty to seventy dollars. The residents send boats to these islands where the eggs of ducks, gulls, guillimots are collected and tested by placing them in water. The fresh eggs are placed in barrels containing a solution of water and lime, and in the absence of the latter, ashes will answer,

and they thus keep good for winter use. The great bulk of the marine birds found breeding on the northern coast of the Gulf of St. Lawrence, are similar to those found in the North of Scotland. The true American marine birds, such as the Labrador duck, (*Camptolæmus Labradorius*), Velvet duck, (*Melanetta velveta*), Surf Scoter, (*Palionetta perspillata*), Brant Goose, (*Bernicla brenta*), Sea Dove, (*Mergulus alle*) and the genus *Stercorarius* have not been discovered breeding on the southern coast at Labrador. Audubon says that he found nests of the Surf Scoter on the margin of lakes near the south coast, but the Indians inform us that these ducks now nest only in Northern Labrador. The Northern Phalarope (*Phalaropus hyperboreus*), in summer plumage was shot near Mingan, but the nest has not been discovered. The Red-breasted Merganser (*Mergus serrator*) occurs abundantly, nesting on the margin of inland lakes. The woodland birds which were found breeding near the coast were very few. Sir Greville Smyth, who was fishing the Mingan, found a nest of the Red-tailed Hawk, (*Buteo borealis*). It contained two young ones, which could feed themselves at the end of July. The Pigeon-Hawk, (*Hypotriochius columbarius*) nests on this coast, and also on the island of Anticosti. We found the nest of the Black-poll Warbler, (*Dendroica striata*), on the third of June. It was in a low fir tree, and contained four eggs. A nest of the Black and Yellow Warbler was discovered on the 17th June. The common Yellow Warbler (*D. aestiva*) was abundant, also the Redstart, (*Setophaga ruticilla*). The White-throated Sparrow (*Zonotrichia albicollis*), and the White-crowned Sparrow (*Z. leucophrys*). Two species of Cross-bill; the Pine Finch, and the Purple Finch were noticed. The sweet song of the Fox-coloured sparrow (*Passerella iliaca*), is pleasing to the ear as we wander through the open parts of these northern forests, and it was with no little joy that we discovered the nest on the 15th of June, and authenticated its eggs for the first time. Audubon has made a

mistake in his description of the eggs of this species. The egg is larger than that of any other sparrow found within this latitude, and they are completely covered with blotches of a ferruginous tint. Contrary to the habit of sparrows, this nest was built in a low fir tree, about three feet from the ground. The Blackburnian Warbler was common in June in the woods of Natashquan, but no nest was found; it is possible that they pass on to the northern margin of the forest which adjoin the plains to breed. Five eggs of the Ptarmigan (*Lagopus albus*) was noticed strung against the wall of a house in Kegaska. The nest was found in the woods behind the settlement. On the 8th of June, When at Watsheesho we noticed the Canada Jay (*Perisoreus Canadensis*) in company with its young, which were nearly fledged. Being anxious to ascertain what these birds fed on, as their nests must have been formed about the middle of April: four of these were shot, and their stomachs contained abundance of a soft red berry that grows in swampy places on the plains. It is a species of cranberry, which ripens under the snow during winter. They are gathered by the people on the coast who convert them with sugar into a delicious preserve. We will close our present remarks by noticing that the Bald Eagle and the Raven occupy the cliffs near the River Corneille, where they bring forth their young. We will give a list of the Western forms of birds occurring on the Labrador coast, in our next number.

TO SPORTSMEN AND NATURALISTS.

Our periodical is the only one in the Dominion of Canada which professes to devote its columns to pure sport and Natural History. It is within the reach of all who wish to obtain information on these matters. We are anxious to increase our list of subscribers, and therefore ask all lovers of true sport to support it. We solicit correspondence from the Sportsmen and Naturalists throughout the Dominion; also ask them to advance our efforts to sustain

the journal. So far, we cannot complain of our success,—we have some of the best men in the country on list—but doubtless there are many Canadian gentlemen, fond of the rod and gun, who have not seen our magazine. We would therefore consider it an act of kindness if those who have subscribed, would induce their friends to send us their names. The price is one dollar per annum in advance. The back numbers from January can be supplied.

THE RACCOON.—(*Procyon lotor*.)

This quadruped appears to have a wide range, occurring from Carolina to the cold latitudes of the fur country. A male raccoon was shot on the 1st of July, a short distance west of the water wheelhouse of this city, near where a female of the same species was shot last year. The animal is not common on this island. It belongs to the plantigrade section of the *Carnivora*, but though the soles of the feet are naked, it is only while at rest that they are fairly applied to the ground. While in motion the heel is raised, yet the gait of the raccoon is heavy and awkward; its limbs are short and stout, its back is arched, and the body is round, thick, and massive, with a marked fulness about the flanks, adding to its breadth and making the limbs seem shorter than they are in reality. Its fur is of two kinds, a soft full undercoat, and an upper vest of long and rather coarse hair. The general colour is dusky grey, the tint arising from each long hair being annulated with white and tipped with black. The face, cheeks and throat are white, with an oblique black dash across the face, which also spreads round the eyes; the tail has four or five dusky-black rings; the length is about two feet, of which the tail is eight or nine inches. Left to itself the raccoon sleeps in its retreat during the day, rolled up in the form of a ball, with the head placed between the thighs. As evening sets in, he begins to prowl for food; roots, succulent vegetables, insects, worms, birds and their eggs constitute its diet. In captivity, it is easily

tamed and even appears susceptible of some degree of attachment. It can climb with the greatest skill in the manner of a bear—ascending or descending a pole with the utmost freedom. With much caprice there is no little cunning in the character of the raccoon, mixed with malice and a fondness for destruction.

FOR FIELD AND CAMPING GROUND.—We call the attention of our readers to *Lyman's Concentrated Extract of Coffee*. We have tasted this delicious coffee and heartily recommend it. Read the advertisement.

Correspondence.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST :

DEAR SIR,—In your issue of June 15th there is an article on the cultivation of wild rice, in which it is implied that the plant will grow in lat. 46.50 or south of that. We have in this Province, between 45 and 46, on the St. John River, hundreds of acres of swampy ponds, in which the wild duck oat will grow freely, and in which sportsmen have frequently talked of planting the wild rice, but have dropped the idea for want of information. The article in your interesting little journal has revived the interest in the subject, and we would like to procure information on the following points:—

1st. Will it grow in dead water ponds as well as in ponds in which there is more or less current?

2nd. How is it to be planted and at what season, and what average summer depth of water is best adapted to its growth?

3rd. How and to whom should application be made for seed, and what is the price per bushel?

Although we are north of 54 here, our climate on the lower St. John is not nearly so severe as in the Province of Quebec—as a rule—the influence of the fog, &c., from the Bay of Fundy having an effect to produce a warmer temperature. Any information you can furnish either in the columns of the SPORTSMAN or by letter to the undersigned, will be thankfully received by the Sportsmen of this Province.

I remain, Sir, yours very truly,
CHAS. W. BECKWITH.

NOTE.—The swampy ponds referred to by our correspondent, are just the localities where wild rice will grow, and it makes little difference whether it is placed in dead water, or where there is an easy current. The fact that wild oat occurs in ponds in the St. John River, is proof sufficient that the rice plant will grow there; and moreover the oat will ultimately succumb, as the rice is more prolific, and the strongest aquatic cereal. We would suggest September as a good season to cast the seed into the water; but prior to that it should be mixed with marsh mud for two days. In Ontario, it grows from a depth of eight feet. Wild rice seed is sometimes advertised in *Forest and Stream*, but we are not prepared to say what it costs per bushel. It is abundant in Rice Lake and Lake Skugog, Ont. Perhaps a subscriber residing near one of these lakes will answer Mr. Beckwith's third question.—Ed.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST:—

DEAR SIR,—A strong feeling is aroused here in the maritime provinces, against the system pursued by the Dominion Government, in leasing out Salmon rivers to single individuals and clubs, thus closing them to the great mass of sportsmen. This partakes too much of the old feudal times, when a few favored ones were allowed privileges that were forbidden fruits to the general public. In these provinces both parties Liberal and Conservative, are working together to bring an overwhelming pressure to bear on our representatives in Ottawa to do away with this despotic law. Make those rivers open waters, then charge say \$1.00 each rod used a day, and the Government would receive a revenue fifty times in amount to that it now derives from this source. Several thousand sportsmen would visit us each year from other countries, and when we consider that these sportsmen while here would spend from \$50 to \$200 each, we can readily see the benefits that this country would receive, and at the same time resident sportsmen who are found among our best citizens, would be able to enjoy the pleasure of Salmon fishing, which is now denied them. Until the New York Club bought the Restigouche River, near Matépédia; Camp-

belltown was, during the summer months, crowded with strangers who came to angle in those waters, now the village is nearly deserted by that class of tourists.

At this age everything that tends to restrict the liberties of the general public for the benefit of a few, will be put down with a strong hand. All Salmon rivers that are of easy access to the public, such as the Restigouche, Matépédia, Cascapédia, &c., instead of giving the Government, as they do now, a mere pittance, should yield a revenue of several hundred dollars a week during the open season. Unless this evil is soon remedied there will be serious trouble, for the feeling here against it is strong and deep, and will sooner or later show itself on the surface with a power that will sweep all opposition before it.

STANSTEAD.

Restigouche, N.B., July 9, 1881.

DEER'S HORNS—A ROYAL HEAD.

Every hunter has heard disputes regarding what may be termed a full-grown, or "Royal" head. The fact is, a deer's age is known like sheep, viz: by the teeth, so that a practical butcher is a better judge on this point, whereas I am only an expert. The horns of our common deer (*Cariacus Virginianus*) take three seasons to come to maturity, so that in its fourth autumn or fall, they are as large as that animal is likely to produce them. In the first fall there are no horns, although I have once or twice seen little nubs one inch or so in length, and it is foolish to look to the size of the horns as a criterion of his age. It is similar to guessing the age of a game cock by the length of its tail feathers. In the first growth, or second fall, the horns are very variously produced. Some bucks have merely a long, single prong, and hunters then call them "spike," or "prong" bucks, and they are often represented as a distinct species. This is not so, as no one has seen the doe of the spike buck. Sometimes there are two branches only without a pointlet, or there may be three, but I never saw more than four. The first growth horns are always small, and look diminutive on the crown in proportion to the size of the buck. In the second growth, or third year, they are nearly as long and large-looking as they will attain, but thinner and more slender; and in the third growth, or fourth year, they become as large as they are generally; solid and massive. Occasionally there may be five, or even

six spikes, and I have seen various spikes with one, two, or even three spiklets of them, giving a grand and imposing aspect to the antlered head. But this is merely chance, and may depend on various causes. Particular localities, seem to have a great influence. For instance, in the County of Bruce, deer are found with antlers having long, straight prongs, and generally five, with very few spikelets. There is first the frontlet, then three full spikes gradually decreasing in length, and the terminal spike of the main branch, making five pointed extremities. I describe this from a full grown head, at this moment on my table, and I may add that the lesser heads are also here. In the Counties of Essex and Kent, and along Lake Erie, horns are more spiked and have quite a different aspect from the more northern forms. Spring opens there two or three weeks earlier than in Bruce. The feed is very different. The soil is low clay, and the water stagnant, and surface water. In the north, the country is a rolling sandy soil, with magnificent rills, that come from pure limestone springs, and formerly there was not one of these but had numerous beaver dams all over them. Into these open spaces deer came, especially in the evening, to feed and get rid of mosquitoes, black flies, horse flies, *et hoc genus omne*; and I have been lucky to drop many a fine buck when in the beaver dams.

Now there is another point sportsmen seem entirely to overlook, viz: the singular effect of peculiar seasons on the size and proportions of the horns. This, Mr. Editor, is no imaginary matter, but a fact. I have observed for years that when there is a warm early spring, with plenty of good succulent herbage, that next fall larger deer are procured, with finer heads; altogether they are fatter and heavier. The reason is thus explained: In spring, when there is not much food, the deer are invariably emaciated, and they have to wander continually for it, consequently there is a corresponding consumption of strength, and a systematic weakening, requiring time to recuperate. This naturally retards the growth of the horns, and after they are fairly in the velvet form, a frosty night takes great effect on them. It seems to stunt their growth, and to a certain extent, inflame them. An old hunter in referring to a head I once had, said that when the horns were a particular size, probably a keen frost took effect on them. I knew this by the rough thick nubs on a particular part. I may mention, that these horns were small, but thick and massive with little elegance of shape.

It may be taken then, that a "Royal head," is a very vague idea, and simply means a magnificent head of horns. There is a foolish notion afloat, that a deer produces one spike for every year of its age, but what I have already stated is pretty nearly correct. You may also often see one horn with a spike less than the other. But there is no accounting for irregularities of this sort. All we can do is to accept facts. Again, the size of a deer has very little to do with the size of the horns. The largest deer I ever shot was a two year old, a spike buck, that weighed 212 lbs., and the largest and finest antlers were on a buck of 157 lbs., both clean meat, *i. e.*, skin, &c., removed. I cannot account for it but it is true, that spike bucks are generally very much larger than other deer. For my own part I think it a pity to shoot deer in the rutting season, but the custom seems to obtain all over America. I would rather have a venison steak in the end of July, or beginning of August, than at any other season. The flesh is then very juicy and tender, and the full richness of the game is there. The animal has fully recovered from its winter's starvation, is plump and solid, with the new flesh well made, but it has not yet begun to lay on its autumnal layers of fat.

In Europe deer stalking begins on the 5th of July, and formerly it commenced in Ontario on the first of August. What practical use is there in putting it back to the first of September. The idea of destroying or "slaughtering?" favns in August is silly. Favns are then quite able to take care of themselves; besides they are difficult to see and shoot on account of their colour and the thick foliage. Would it not be really more for the benefit of sportsmen to drop hunting on the first November, to allow the deer to rut in peace, and to commence stalking on the first of August. All other game are protected in the breeding season: why not deer? Another mode of hunting, I never practiced, was using hounds. This I look on as miserable pot-hunting, and the deer, when so driven by these brutes, are either exterminated on their run-ways, or chased from the section of country so hunted. How different a sport is stalking or still-hunting, which requires all the skill of the true sportsman to come on the deer, and then fairly bag his game by his own exertions. I have always been opposed to hounding and see no "sport" in hiding behind a cover and shooting down the poor animals that are bounding away for dear life. I mention a fact, that at the last revision of the Ontario Game Act, using hounds in hunting deer was nearly pro-

hibited, and I wish it was. In Michigan, hunting deer with hounds has been totally prohibited, and not one pound of venison can be taken out of the State. Some American butchers came to Muskoka last year and killed and sent a large number of deer to their markets. Canadian Sportsmen should rise and protest against such destruction and unmanly slaughter. Will some other brothers of the gentle craft give us their opinions of these matters, not excluding "carpet" sportsmen. In conclusion, I may remark, that a "Royal head" was a term applied to the full-grown antlers of the Red deer of Scotland, which may yet be found in both England and in the wilds of Connemara, in Ireland, and it had twelve tines or spikes on both horns. Sir Walter Scott often mentions them, and in the "Fortunes of Nigel," a characteristic description may be found. King James the First, said he could die happy when he killed a buck with "twelve tines." I do not see how our common deer can have their horns compared at all to those of the majestic Red Deer of the Highlands. The Wapiti, or American stag, *Cervus Canadensis*, approaches very nearly to the Red Deer, and there is a great comparison between stag's horns and a common deer's. I cannot see how the term "Royal" can be applied to the Virginian deer's antlers, with any propriety.

J. H. GARNIER, M.D.,

Lucknow, June 23rd, 1881.

P.S.—One of your Correspondents, "Hammerless Greener," in your late issue amused me very much by a sly fling in a P. S., about my shooting robins. I do not retract one word I said about robins, otherwise, American Fieldfares, being a very dainty dish. Now, if "Hammerless Greener" is man enough to put his name to it, and write sensible remarks against a dish so much esteemed in the neighboring republic, I shall be glad to read gentlemanlike reasons of dissent, which would be preferable to a boyish sneer.

J. H. G.

NOTE.—We publish Dr. Garnier's opinions on deer's heads, although we cannot exactly agree with him. Doctors will differ, and it is possible that there are sportsmen who are not doctors who will disagree with his conclusions as to what constitutes a "Royal or King Buck." We have made the growth of deer horns a study for years; so did the late

Frank Buckland, who fully illustrated the Royal heads of European deer. We have had many opportunities of seeing and handling the heads of what are termed "King Bucks," belonging to the common deer (*C. Virginianus*). Instance the illustration at the head of Mr. Scriven's advertisement—that we take to be a "King or Royal Buck" head of *C. Virginianus*. We agree with our correspondent that the horns of all species of deer are variously produced, but independent of this fact, we can show a series of heads with horns of unusual or "King" typical form, and these heads are from different parts of the Dominion. We have on this continent three forms of *C. Virginianus*, all of which produce Royal heads, and when we compare these horns with the genus *Cervus* of Europe, then it is that we arrive at the conclusion that such are produced and they are termed here "Royal Bucks." Age has nothing to do with the growth. For instance, say that the nails on the doctor's fingers are not clipped for one year, they may probably grow the length of his fingers, and moreover take a spiral form. The argument that the growth is retarded by frost, is not natural, because the horns are fully grown, and there are not many bucks in the velvet by the end of September.

Since a portion of this note was in type, we received an addenda to the above letter from the doctor, in which he says that there is a great difference between the deer (Genus *Cervus*) of Scotland, and the common deer (Genus *Cariacus*) of America. We are perfectly aware of this, but the fact that they belong to two distinct genera does not disturb our theory that they are both liable to attain horns known as "King or Royal Bucks." A "Royal Head," although rare, is not typical but an abnormal form, occurring in all species of deer, and having said this much, we ask the opinions of others on the matter.—ED.

J. H. G.—"The Canadian Naturalist and Geologist" is published by Dawson Brothers, 159 St. James Street, Montreal. The price of the vol., covering two years, is \$3 in advance.

We do not know the Montreal journalist referred to; we have no time to enquire if he is a "scamp" or not. You had better address Detective Cullen of this city, who will ferret him out and send the required information.

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WHITE BIRCH ; *B. alba*.—This is the smallest of the birch trees, seldom attaining a height of over 30 feet. It grows with the pitch pine in the poorest sandy soils, and is fit to cut for fuel in ten years from the seed. Its wood is of no other value, as it is soft and decays rapidly.

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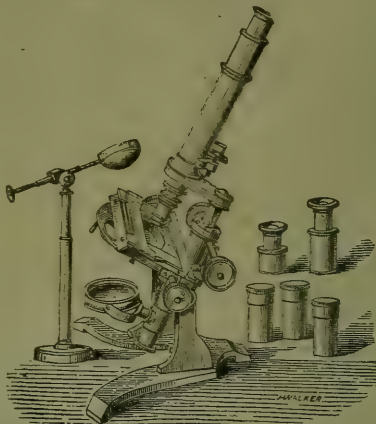
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THE
CANADIAN SPORTSMAN
AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, AUGUST 15, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 8.

MONTREAL, AUGUST 15th, 1881.

VOL. I.

NATURAL HISTORY IN SCHOOLS.

We have had some experience in the way of explaining singular questions asked by young people relative to points of Natural History. The cause of this is easily explained. Books on Geology, Zoölogy and Botany, are generally expensive, and in many cases not within the reach of every ambitious young man or woman. We would advise beginners who are fond of zoölogical studies not to dabble in more than two branches of the science at one time. The study of Geology, Mineralogy and Crystallography combine and will not place the student in a quandary. The Mammalogy of this country constitutes a subject of great interest, and there are some instructive discoveries to be yet made, especially among the small rodents. The student who can take up this subject will find plenty of new facts to add to the present human knowledge. Ornithology and Oölogy go together, and although the natural history of birds have been pretty well worked up, still there is the interesting and almost new study of Oölogy from which it is probable to obtain many embryological features new to science. Again, there are probably some reptiles and fishes of whose economy we know little or nothing. We remember about thirty years ago communicating with the late celebrated Naturalist, Louis Agassiz, relative to a viviparous fish (*Cyprinoid*) which we discovered on the south side of Lake Ontario. A short time after this *Savan* discovered another species belonging to the same genus in California. Such instances alone should suffice to instill into the mind of the student acuteness and energy. By perseverance, many new things can be obtained. Moreover, it invariably occurs that the discovery of a new form is followed by that of another closely allied. It was only the other day that we had brought to us, a rare bat (*Vesperillio Novaboracensis*), a pretty little creature,

whose body is covered with reddish brown hairs. It was caught at Lancaster, Ont. The New York bat is rare in Canada; we took one asleep in daylight at Toronto, in 1846. It was suspended by its feet from a branch of a low tree, in the Hon. Mr. Allan's, Moss Park. This specimen was sent to the late Professor Agassiz, who informed us that the occurrence of this species at Toronto corrected a former statement of his regarding the geographical range of the animal, which was placed at a more southern latitude. The delightful study of Entomology in which great progress has been made of late years in the United States and Canada, can be combined with Botany, as it is necessary that the Entomologist should have some knowledge of the plants growing in his neighborhood. It is therefore important that these branches of Natural History should be taught in our Common Schools, at least the rudiments should be instilled into the minds of the young at a time when it can be enjoyed as a pleasant change in their daily exercises. We contend that a man cannot properly or intelligently fill the position of Judge, Barrister, Professor, Poet or Editor without some knowledge of Zoölogy. Many news writers can discuss and give clear and profound dialectics on subjects interesting to the general public in a secular way, but we believe that the additional knowledge of this nature would enable them to propound and elucidate matters which would produce the best results among the multitude. Why follow the old hum-drum system of education? The wide views of this progressive age calls for reform, therefore extend the advanced knowledge to the rising generation. Why should the systems of a semi-intelligent age be continued when better results can be attained? Give the young a knowledge of all new phenomena of nature that they may understand it, and become better men and women. Pay good

salaries to profound teachers who have a sturdy trust in their hands. Boys and girls at the age of twelve, are apt scholars, extremely inquisitive, and the information acquired by them at this age is productive of immense good. We believe before the expiration of five decades of time from the present, that the school system regarding Natural History will be as proficient as man can wish, and that towards the end of the century, many men will make grand progress in this noble science.

LEASING SALMON RIVERS—THE PEOPLE'S RIGHTS.

"The subject who is truly loyal to the Chief Magistrate will neither advise nor submit to arbitrary measures,"—JUNIUS.

One who glances over a Dominion map, scanning that portion of the coasts bordering both shores of the Lower St. Lawrence, will notice a number of rivers flowing into salt water. Several of these clear water streams are doubtless frequented by Salmon and Sea Trout. Gentlemen from Europe, the United States, and different portions of Canada have discovered the surface-fishing value of a few of these rivers, which are generally annually leased by the Fishery Department, that the lessees may derive the sole pleasure of fishing them. Of course, the Government claim the rivers, and have a right to demand a revenue from some of them, but we are informed that there is an exclusiveness in the system which the maritime people consider arbitrary. They say the man who is able to pay his dollar per day to fish with the rod for salmon should be allowed that privilege on any of the Nova Scotian and New Brunswick rivers. The Department sustains a staff of employes, as officers, inspectors, fish-breeders and guardians at good salaries, in order to look after all matters connected with these fisheries. This is a natural consequence arising from the leasing business, and may be well enough, provided it is made to pay. But the Government has a right to keep the people contented—to prevent the creation of ill-feeling—

to see that they are not debarred from a right which was not denied to them prior to Confederation. The men of New Brunswick are determined to claim riparian rights, and we are informed that dissatisfaction exists, especially in Campbelltown and neighborhood regarding these restrictions. Sportsmen and residents on the Matapedia, Restigouche and tributaries, feel greatly annoyed that the Department should sustain monopolies, in preventing them from procuring local life comforts which they formerly enjoyed. We think the proper mode of settling this difficulty is to do away with leasing and appoint a resident guardian for each river. When the season arrives let this responsible man be at his post to arrange with the surface fishers, keeping a memorandum of every day rods are used. Of course the daily score will guide him. In this way the Government would satisfy not only the resident sportsmen, but the many visitors who doubtless would go there as heretofore, to spend money and enjoy themselves. When a gentleman pays for outfit, railway fare, hotel bill, gaffer, and one dollar per day for his fishing, the amount at the end of the season will be quite sufficient for the pleasure derived. The locality will also be benefitted by this change, because gentlemen who can have a chance of fishing at this rate will probably remain at the river's side longer than they do at present. This system would ultimately do away with a portion of the Departmental work, as well as saving the country about \$40,000 per annum.

The following supplement to the report of the Minister of Marine and Fisheries for 1880 has just been issued. It shows that the total expenditure in the Dominion for salaries and fish breeding for the year amounted to \$86,162 and the collections to \$19,423. The number of fish licenses granted was 4,334. The number of fishery offices in the outside service was 594. The total expenditure for fish culture, was \$29,109, and the number of young fish distributed is stated to have been 21,520,600. In the Province of Ontario, the salaries paid and the expenses of fish breeding was \$17,304, and in Quebec Province, 9,173. The collections in

Ontario for rents, license fees, fines and confiscations amounted to \$6,465, and in Quebec, 7,124. In the Montreal Division the number of fishing boats used was 1,152, valued at \$6,655. number of gill nets used was 1,032 and of seines 348. Quantities of fish caught during last season were as follows: 137,062 eels, 195 lbs. sturgeon, 230,400 lbs. trout, 3,100 dozen whitefish, 10,000 tommycod, 3,600 masquinonge, 1,050 barrels bass, 973 barrels pickarel, 975 bbls. pike, 15,305 bbls. mixed fish.

ANTICOSTI.

This island, situated in the River and Gulf of St. Lawrence, about 400 miles below Quebec, is not frequently visited by sportsmen, for a good reason, that there are but few localities on it where sport can be easily obtained by rod or gun. Many persons are led to believe that there are good salmon surface-fishing on Anticosti, because the Fishery Department advertises the leasing of its rivers every season. We have been two summers on the island, visiting the west and east ends of it. Certainly there are some very handsome and luscious salmon taken in nets which are placed in the bays, but as regards good fly-fishing for salmon, it is questionable, as the rivers are generally too shallow. However, the pools contain excellent Sea and Brook Trout. A few salmon enter the Salmon River on the North-east side; the Jupiter on the South side, and Chaloup also on the South-side. There is another river called River à la Loutre, a stream entering the sea about twenty miles west of S. W. Point, which is said to be frequented by salmon and trout; but the other rivers are not deep enough to allow salmon to enter, and are not worth advertising; in fact we question if the Department had a legal right to do so. The tides are an obstacle to the above rivers being ever good for salmon; the fish can scarcely get time to enter them. In some of the bays, although the river may be deep enough near the estuary, the tide is no sooner at its height, than it returns towards its base. There is a difference in the tidal time between the West and East portions of the

island, and this, with the fact that there is good estuary feed, may account for salmon being found around it.

THE APPROACHING YACHT RACE.

The failure of the Canadian built yacht, "Countess of Dufferin" to obtain the Queen's Cup, has not discouraged the Ontario yachtsmen from making another effort. The Bay of Quinte Yacht Club has challenged the New York Yacht Club, the holders of the "America" Cup. The Canadians are now building a sloop yacht at Belleville, Ont., to be named the "Atlanta," which will enter the contest. We are also informed that another yacht is being constructed at Cobourg, by Mr. Cuthbert, the celebrated yacht builder of Ontario. It is intended that she will compete for the Queen's Cup, which the Americans brought across from England, some years ago. The rules of the New York Yacht Club are peculiar and stringent, inasmuch as the prize can only be obtained by sailing on three successive days, and the holders of the Cup claim the privilege of sailing many different yachts in the race. Therefore the Canadian yachts will have to contend against the whole fleet of the New York Yacht Club. Of course, if we challenge our neighbors, it is with the knowledge that the rules of the American Club are to be complied with on our part, and if one of our vessels gain a victory under the circumstances, it will be another feather in the Canadian's cap. The flag officers of the N. Y. Yacht Club are dubious as to the sailing qualities of the "Atlanta," and the only vessel that can make a fair show against her, (the "Arrow") does not belong to a member of the Club. The owner of the latter yacht, Mr. Ross Winans is abroad, and therefore the vessel cannot be entered, as he must obtain club membership first. However, to make up for the "Arrow," said to be the fastest in America, Mr. David Kirby, the builder of the latter, offers to construct a vessel with finer lines, which in his opinion, can beat the

"Arrow." The new yacht will probably be called "Pocahantus." Details of her description and probable sailing qualities cannot be given, as they do not desire to inform the Canadians on these points; suffice to say that the new yacht will be three feet longer on the water line than the "Arrow," consequently she will be six feet longer on deck: these added lengths being aft. She is finer forward than Mr. Winan's vessel; her bilge in the wake of the fore channels being rounded off a bit, and it is thought she will run faster off the wind for this change. It was discovered that to windward the "Arrow" could not be beaten, but Mr. Kirby thinks the improvements in his new model, will not only equal the "Arrow," but that the "Pocahontas" will be easier on the helm, and a free runner before the wind. Her dimensions are $71\frac{1}{2}$ feet on deck, 65 feet at the water line, 21 feet beam, and 7 feet 10 inches depth of hold. She is a centre-board sloop, her board being of yellow pine, 21 feet long, $9\frac{1}{2}$ feet deep and four inches thick. It is fastened with about 500 lbs of iron bolts.

AN ENGLISH YACHT TO RUN.

For the first time in the annals of yachting an English racing cutter is to cross the Atlantic to try conclusions with the Yankee sloops. Mr. James Coates, of Paisley, intends to take his famous little ten-tonner "Madge" to America on the deck of one of the Anchor liners. Next week she will have some larger spars and sails than at present, to enable her to compete with the American sloops, all of whom have enormous masts and sails. "Madge" will be rated at about sixteen tons by the New York rules, and will have to compete with vessels quite double her tonnage. Two years ago Mr. Coates brought over from America one of the fastest sloops of her tonnage there, of about sixteen tons, with a Yankee to sail her, who on seeing "Madge" guessed he would beat that craft; however, "Madge" sailed round her in the first mile. Judged by that performance, "Madge" should have a good time in America. Mr. Coates deserves the best wishes of all yachtsmen for his sporting idea of showing the Yankees what our national rig, even when represented by a small boat is like.—*London World.*

MONTREAL AMATEUR ATHLETIC ASSOCIATION.

A GOOD CONJUNCTION.

It gives us pleasure to record the genial Association of the Lacrosse, Snow-shoe and Bicycle Clubs of Montreal. On the 25th of July, a special general meeting of the above Clubs was held in the Gymnasium to consider the Constitution and by-laws of the Association. Angus Grant, Esq., President, took the chair. Mr. Baylis, Secretary, read the proposed scheme to free the building from debt, which is at present \$12,000, but the Mercantile Library had about \$7,000 which probably could be obtained for the Association. The intention is to issue bonds without interest, to members of \$10, \$50, and \$100, to be paid off in ten years, by drawings at periods when the funds will allow. This was agreed to. The President then read the Constitution and by-laws, showing the objects of the Association, which are to encourage athletic sports, promote physical and mental culture among, and provide rational amusements for its members. Only amateurs are to be admitted on any account. The subscription to the Association is to be \$10; members of the Lacrosse Club paying \$7, of the Snowshoe, \$8, and of both \$5. Life members may be admitted on paying \$100; life members of the Lacrosse Club \$70; snowshoe \$80, both \$50. Full members who subscribe twelve years from now will become life members at the end of that time. There are to be nine directors, four from the Lacrosse, four from the Snowshoe, and one from the Bicycle Clubs other arrangements being made as other clubs are admitted to the Association. Members will be elected by the directors, after the names have been posted on the club rooms; if anyone objects to a name, twenty-five members can have a meeting called to decide, and one black ball in ten will exclude. Members whose subscriptions are six months in arrears may be expelled by the directors and be sued for the

amount due. Any member guilty of ungentlemanly conduct may be expelled by a two-thirds vote at a special general meeting. The building will be open from 7 to 11 a.m. on week days, and from 2 to 6 p.m., on Sundays. No gambling or betting allowed, and intoxicating liquors cannot be brought into the building under any pretence whatever. After full consideration, the Constitution and by-laws were agreed to.

Mr. A. STEVENSON moved a vote of thanks to the Hon. W. W. Lynch for taking charge of the Association's Bill and procuring the remission of the usual fee of \$100. He also mentioned Messrs. McGIBBON and BOWIE as having given valuable help to the Association. The motion was seconded by Mr. STARKE and carried unanimously.

The PRESIDENT then made a few remarks, in the course of which he referred to the match of the 25th, as the best which had been seen in Montreal, and thanking the team for the victory they had won for the club. He then proceeded to give away the prizes for different competitions during the season, as follows:

Bowling competition—ten pins (handicap) C. J. Coursol, 2,980, gold medal; J. L. Gardner, 2,845, silver medal.

Bowling competition—cocked hat—G. F. Corcoran, gold medal; E. C. Haviland and E. Busted, silver medal.

Billiard tournament (handicap) 200 points—4 balls, J. L. Gardner, 12 out of 13, gold medal; G. F. Corcoran, 9 out of 13, silver medal.

General proficiency—gymnasium—first class—C. H. Gwilt, gold medal; J. T. Barlow, silver medal; H. Fisher, silver medal. Second class—J. Patterson and R. Locke, silver medals.

Shooting competition—small target—200 yards, C. L. McAdam, Gold medal; M. Freeman and E. C. Haviland, silver medals; R. B. Ross, gold cartaiidge pencil.

Shooting competition—large target—100 yards, C. L. McAdam, gold medal; M. Freeman and R. B. Ross, silver medals.

THE G. T. R. BOATING CLUB REGATTA.

The sixth annual regatta of the Grand Trunk Boating Club, took place from Molat's Island on Saturday the 6th instant. The G. T. R. Band played an excellent selection of music during the afternoon. The judges were Dr. T. A. Rodgers, Ald. Mooney, Mr. James McShane, M.P.P., and Mr. W. McWood; starter, Mr. A. Patterson; referee, Mr. Wm. Ross.

There was a fair wind, and towards the end of the proceedings plenty of rain, so the course was just as "lumpy" and unpleasant to spin over as could be expected. The following were the results:—

Double scull skiff, for boys under 17, two miles—1st, Anthony and Beattie, prize \$25 silver fruit basket, presented by Mr. F. R. Brown; 2nd, Berridge and Upton, \$6.00; 3rd Berridge and Riddell, \$3.

Single scull skiff, for club members—1st Henachine, prize Wallis Cup; 2nd, W. Morris; C. Girdwood, a good third.

Single scull skiff, for boys under 15, one mile—1st M. Patton; 2nd J. Anthony; 3rd A. Beattie.

Single scull shell, two miles—Won by Joseph Laing, prize \$25.00 cup; 2nd, L. Leroux, and R. Laing not a good third.

Single scull skiff, two miles, for members who never won a prize in any race—Won by J. Lovell, prize silver cup, presented by Mr. J. McShane, M.P.P.

Double Scull Skiff, two miles—Beattie and Morris, pulled a good race, and came in a good first; Ellis Brothers, 2nd; Morgan and Ogilvie fouled at the start and came in a considerable distance behind the second boat.

Consolation single scull skiff, two miles—1st, R. Laing, prize, cup presented by Mr. W. McWood; 2nd, C. Girdwood; 3rd, F. Mofatt.

Climbing greasy pole.—Some twenty boys who entered for this, afforded the spectators great amusement for a time. It is a long pole that has no end, and to some of the boys it must have appeared much higher than Jack's bean stalk, for they would not make an inch progress in ten minutes. Finally W. Turnbull made rope steps and was thereby enabled to reach the long coveted top of the pole.

Duck Hunt.—This would have been an amusing event had the duck been properly started. There was about forty entries, and at first the duck took a lively interest in the affair, but it

was held so long by the old gentlemen who was to give it its "sweet liberty" that its interest flagged, and John Myers soon captured it. Prize, \$2 and the duck.

The races over and the rain commenced, the main trouble was getting home; there was no shelter on the island and punts and skiffs were above par. It is to be hoped that at the next regatta better accommodation will be provided.

THE POINTE CLAIRE REGETTA.

The second annual regatta of the Pointe Claire Yacht Club, took place on the 6th inst., over the usual course and was very largely attended. The course being "choppy" and full of "white caps," sculling was rather a thing to be avoided than desired.

The first was the yacht race, for which the following craft entered:—

"Eolus"—Grenier and Brunet, St. Ann's; allows 3m. 12s.

"Waterwitch"—D. Lewis and F. Tracey, Longueuil: allows 3m. 24s.

"Oriole"—Wright and Raphael, Pointe Claire; allows 1m. 36s.

"Zephyr"—R. Barber, Pointe Claire.

"Petrel"—G. A. Campbell, Pointe Claire; 3m.

The "Oriole" came in first, "Waterwitch" second, "Petrel" third. The prize, a \$100 silver cup, is now the property of Messrs. Wright and Raphael; the "Oriole" having also won it last year. The winners receive in addition to the cup, a medal valued at \$10, presented by Mr. T. J. Claxton.

The boats which entered for the row-boat race were:—

"The Agnes,".....A. Ross, Pointe Claire.

"Frou Frou,".....D. Ducharme, Lachine.

"Alice," C. Thurston and Killaly, Lachine.

"Lottie,".....C. Houston, Pointe Claire.

The course was round the Dorval Light house and back, and seven of the boats were handicapped. The "Lottie" ran into Pointe Claire shortly after the start. When the light was made, and on the way in, while the "Frou Frou" and "Alice" were scudding along neck and neck, the former to the leeward, and the "Agnes" to the windward a short distance behind, the "Alice" capsized. Mr. Ducharme immediately lowered his sails and had his boat rowed to the rescue. The three men who were in the "Alice" were in the water for over an

hour, and were picked up by the crew of the "Frou Frou" after considerable trouble. A very high wind was blowing, at the time. The "Agnes" had a walk over the rest of the race. Mr. Ducharme entered a protest, and has left his boat at the Pointe, in the anticipation of the race being sailed over again.

The double scull lap-streak, won by Conway and Duquet, of Lachine.

Single scull lap-streak, won by Jno. Conway.

Canoe (two paddle) race—Messrs. C. DeB. Leprohon and G. Auldjo, of Lachine, won; Messrs. C. Nelles and Kohl, of Pointe Claire, second.

Tub race—W. Auchterlonie first, C. Holden second and G. Claxton third.

Correspondence.

To the Editor of the CANADIAN SPORTSMAN and NATURALIST:—

DEAR SIR,—I regret that my Postscript about shooting robins should have annoyed Dr. Garnier. I do not question the delicacy of a dish of robins, nevertheless, I adhere to my assertion that I never knew a sportsman who shot robins for pleasure or profit. I object to the killing of robins, because the male is a favorite songster, protected in Ontario by Statute. Robins and other insectivorous birds can only be killed legally by men on their own land, and then only when damaging fruit. There is an old tradition of the origin of which I am not aware, that the robin is "God's bird," hence by many held sacred. I differ with the Doctor regarding the hunting of deer. There is infinitely more sport in a shot at a buck while leaping and bounding through the forest, than at one standing still; and the signal music made by the hounds is itself exciting and worth listening to. If either kind of hunting deserve the title of "Pot hunting," it is, in my opinion, "Still hunting." One skilled still hunter in a favorable locality, will kill more deer in a given time, than three parties of five each can with dogs. I have hunted frequently with dogs for deer, and I never knew of a deer driven by hounds out of his beat on the first day, that could not (if alive) be found in the same neighborhood on the second day. In conclusion, let me say that my experience leads me to think that "spike-horned" buck and doe differ in appearance and structure from the branching-horned kind; they are lower in stature, with finer heads

and heavier bodies. The Doctor, however, is correct in regard to the number of prongs as not indicating age. A very old buck may be recognized by the corrugations at the base of his horns. I also coincide with him that a comparatively small buck may carry a large set of antlers. The heaviest set I ever saw is in my possession, and they were carried by an animal under 150 lbs. in weight. I differ, however, with the Doctor about the size of the horns of the red deer of Europe, as compared with the Wapiti or stag of the Rocky Mountains. No species of the genus *Cervus* carries such heavy magnificent horns as the Wapiti, which is a larger animal than the Scottish deer.

Yours truly,

HAMMERLESS GREENER.

Ottawa, July, 1881.

P. S.—A surveyor informs me, and in whose word I implicitly rely, that he found a pair of Wapiti horns in the North-west last fall which he set up with the top points together, and walked under them without touching his head. My friend the surveyor is six feet two inches high.

I have three very fine heads of deer stuffed in addition to the large one above referred to. One with long spikes, very wide set and lofty, from a buck of 170 lbs. Another quite wide also and beautifully formed, with a spike nine inches long on each side growing backwards from the main arms of the antlers. This buck weighed 200 lbs. A third set are very small and regular in shape; weight of deer 175 lbs. I have also another head from a buck killed by a friend of mine in the Madawaska River, two years ago, which weighed 250 lbs. The horns are of great thickness, at the base, with great breadth and length in the main branches, and few prongs. Their singularity, however, consists of an irregular and unnatural growth of horn very thick and massive at the root, extending from the right side of the head. This abnormal mass of horns, bears twenty-one points.

NOTE.—The bird commonly called a robin in this country, belongs to the genus *Turdus*; it is therefore a thrush. Our correspondent's remark regarding "God's bird," may possibly have arisen from the nursery legend where it is said that the European Robin red-breast covered the lost babes in the woods with leaves.

In regard to the deer, it will suffice here to say that there is only one species of *Cervus* occurring in Ontario, and that although specimens are occasionally found which appear to the eye of man as indicating difference of structure, that these peculiarities are not sufficient to make a species—the formula of dentition alone is what determines specific characteristics, and as these have not been discovered to vary in the "Spike-buck," all the Ontario forms are only one species called *Cervus* (*Cariacus*) *Virginianus*.

OUR FOREST TREES.

LOMBARDY POPLAR; *Populus fastigiata*.—This tree, once so extensively planted and admired for avenues and roadsides, has had its day. It is of no value for shade, and its numerous dead branches, even on young trees give it an untidy appearance. It was introduced from Europe.

POPLAR; *Poplar*.—A rapid growing tree, valuable for charcoal, and pulp which furnishes a large proportion of the stock for paper collars.

WHITE WILLOW; *Salix alba*.—This is also a native of Europe, but has been extensively planted in New England. It grows rapidly to a considerable height. In England it is valued for its timber.

WHITE ELM; *Ulmus Americana*. The graceful curvature of the branches of this tree distinguishes it from all others and it may well be called the favorite shade tree of New England. The elms of Boston common, of New Haven, and along the valley of the Connecticut River, are familiar emblems of majestic beauty. They are attractive even when the foliage is gone from the airy sweep of the branches and the feathered regularity of the spray. The elm bears transplanting and pruning better than any other forest tree, and is of rapid growth. Its wood from the peculiarity of the grain, is very difficult to work, but it is often used for making large ships' blocks and ship's floors. For the hubs of waggons and carriages, it is preferred to every other kind of timber. Some elms in Massachusetts, though known to be nearly 200 years old and generally hollow at base, are still in apparent vigor.

SLIPPERY ELM; *Ulmus fulva*.—Though commonly a much smaller tree, this bears a strong resemblance to the White Elm, but is not by

any means so abundant. Many trees have been killed by being stripped of their bark, which is in great demand for medicinal purposes. This inner bark is an excellent application for poul-tices, in affections of the throat and chest, and for dysentery. Flour made by grinding it, and mixed with milk is a wholesome and nutritious food for infants and invalids. The wood is thought to be even superior to that of the White Elm for hubs, and in the Western States, it is employed in the construction of houses.

HACKBERRY ; *Celtis occidentalis*.—This is usually a small tree; but occasional specimens have been found nearly forty feet high and $2\frac{1}{2}$ in diameter. Its rough bark, angular limbs and very numerous branches give it the appearance of an oak. The dark purple fruit is very sweet with a large stone. It is stated that the wood of this tree is close, fine grained, and highly prized for shuttles.

WHITE ASH ; *Fraxinus Americana*.—This graceful tree rises in the forest to the height of 70 or 80 feet, with a straight trunk and a diameter of 3 feet or more at the base. On an open plain it forms a broad, round head of great beauty, and it is every where a favorite object of the landscape painter. The wood is white and remarkably tough and elastic. It is used for hoe and rake handles, for wagon shafts, oars, frames of carriages and for furniture. The leaves are effectually applied to mosquito bites, bee stings and even snake bites.

BLACK ASH ; *F. sambucifolia*.—The slenderest of trees, often reaching the height of 70 or 80 feet with a diameter scarcely over a foot. It usually grows in swamps, and will not thrive in dry situations. The wood is remarkably tough, and next to white oak it is preferred for the manufacture of baskets. For this purpose it is beaten with mallets until the fibre is somewhat loosened, when it is readily separated into thin ribbons. It is also used for chair bottoms, hoops and coarse buckets.

LILAC ; *Syringa*.—An ornamental shrub with hard, close wood.

ELDER ; *Sambucus*.—A coarse shrub, 4 to 6 feet high, bearing a broad cyme of white flowers, followed by small black berries, of which a tonic wine is made, while a sudorific tea is made from the flowers. The abundant pith is used in electrical experiments, and boys make pop-guns from the hollow shoots.

COMMON SWAMP BLUEBERRY ; *Vaccinium Corymbosum*.—A shrub from 4 to 9 feet high: in swamps and moist woods, the latest and best

of all the huckleberries. The wood is of no use.

WITCH HAZEL ; *Hamamelis*.—This tall shrub or small tree rises to the height of 10 to 20 feet. It has the remarkable quality of putting forth its flowers, which are of a showy yellow colour, as late as November, even while dropping its leaves. The wood is white, flexible and close grained. The Indians used the bark for poul-tices to allay inflammation, and an extract has been obtained from it which has some repute in medicine. The forked branches of this shrub were once believed by the superstitious to have, in the hands of certain men, a magical power in indicating the position of hidden springs or wells; hence the name witch hazel.

CRATEGUS ; *Thorn*.—A shrub sometimes attaining the size of a small tree. Branches armed with thorns; wood very hard; would polish well.

PEAR ; *Pyrus Communis*.—This tree grows rapidly and forms a tall and finely shaped head. It therefore combines the valuable qualities of a fruit and a shade tree; its wood is of reddish-white colour, heavy, firm and of a very close grain, and ranks next to box-wood for the use of the engraver. When stained black it makes a good substitute for ebony.

PYRUS MALUS ; *Apple*.—The wood of this well known fruit tree resembles pear wood in most of its properties, except that it is lighter. It is much used by the turner, and is made into shuttles and walking sticks. Apple-trees have been seen in Massachusetts more than 70 feet high.

MOUNTAIN ASH ; *Pyrus Americana*.—A small tree, seldom more than 25 feet high, of slender delicate proportions. It is often planted as an ornament to lawns, but its wood is of little value.

GARDEN PLUM ; *Prunus domestica*.—Cultivated for its fruit.

WILD RED CHERRY ; *P. Pennsylvanica*.—A slender tree, about 20 feet in height, and very abundant in New England, but on the Ohio River it ranks among the largest trees of the forest. The fruit though bitter has an agreeable flavor which it imparts to cherry brandy. The wood is of a light red color, growing darker and richer with age. It is close grained, compact, and takes a good polish. It is much employed for tables and other cabinet work, and compares well with the inferior grades of mahogany. The bark has tonic properties, which are of some repute with the medical faculty.

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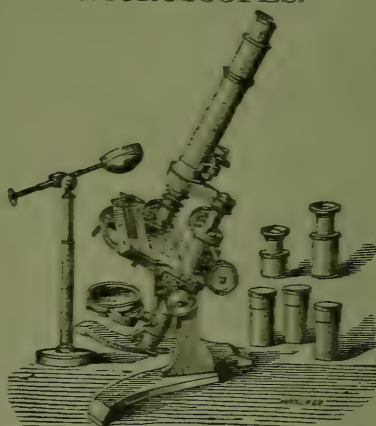
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A MONTHLY JOURNAL.



MONTREAL, SEPTEMBER 15, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 9.

MONTREAL, SEPTEMBER 15th, 1881.

VOL. I.

WILL THE LOBSTER FISHERY FAIL?

The demand for this excellent article of human food is increasing yearly, and the system of canning the crustacean is as perfect as it possibly can be. The question may, however, be asked,—Will the thousands that are captured every year, cause a scarcity? Will it ultimately produce a failure in the business? Our opinion is that the unlimited license given to parties to net salmon in estuaries and inside large rivers, notably the Natashquan, is to a great extent, the cause of the late scarcity of the fish in the Lower St. Lawrence. We are told that a French steamer made two trips from France to the North coast of the Lower St. Lawrence for Salmon this season. They offered and paid ten cents per pound, which is a fair price at risk. There are no objections to this trade, but we decidedly put down our foot and say with indignation, that the Government who aids and abets such wholesale slaughter has yet a heavy penalty to pay to her people. The law has been violated for filthy lucre. We trust this will not occur again. If similar netting is carried on in other large maritime rivers, the result will certainly continue to decrease the number of salmon. We have learned from one of the party who fished the Natashquan this season, that with few exceptions, all salmon taken with the fly had marks of a struggle in nets which were placed inside the estuary in the river. This is not giving fair-play to fish or lessees, the latter coming annually from England to enjoy the sport. Those who pay well for river surface fishing, have a right to demand the Fishery Department to keep the entrance clear, and we have positive proof that Mr. Jervois, the lessee of the Natashquan, has not been fairly treated by the Department, especially this year. The Federal Government make the sporting resources of the Dominion known to Europeans by distributing pamphlets

by agents throughout the nations, and a man of means induced to lease a Canadian river for the space of a month, afterwards discovers that the fish expected to run fresh from the sea instead of being full of vigor are lying sick at the bottom of a pool. This is anything but encouraging to sportsmen, particularly British. Now, regarding the lobster it is different in its mode of life from a fish. The object of proprietors of canning houses should therefore be to prevent the destruction of female lobsters. When they are carrying their ova they should not be destroyed, but allowed to escape. It is the only safe mode by which the species may be kept increasing. Besides the young lobster has so many enemies that we may safely say thousands are destroyed after the crustacean becomes the size of our river crawfish. It is a glaring fact that this important lobster business is not properly recorded. We have no accurate figures as to the number taken in the Dominion for canning, nor any descriptive account of the establishments for that purpose. Tommycods and eels are noticed; fishes which are of little commercial value outside the Province of Quebec. Salmon canning is also in the same category as the lobster. Surely those two branches of Canadian industry should have some recognition among our fishing resources. Of course we make this statement from a Fishery report given in our last number. There may be Reports giving the amount of salmon and lobster collected in the Lower St. Lawrence for canning purposes, but they were not sent to us, and we therefore place the subject before our readers in order to show how this industry stands. The bays of Anticosti abound with lobsters, and although this fact has been known for many years, no attempt has been made to establish a canning-house on the Island. It occurs to us that there is a lack of keen venture among the Canadian people in

thus allowing a vast amount of good nourishing human food to be swallowed up by marine animals. We are of opinion from what we have seen of the lobster of Anticosti, that canning houses on the island would be a success. The crustacean in its season enters all the bays around the coasts, and by means of traps, immense numbers could be canned every year and a business of this nature can be established on the island without a large expenditure of money. We must however repeat, what we said before, do not destroy the lobster while carrying spawn. If you do, the business will fail. Greed and bad management may be said to have been the cause of destroying the productiveness of our salmon rivers. Let this not be the case with the lobster, which, although hardy and quite able when adult, to fight its aquatic battles with equals, has not the instinct to evade the traps laid for its capture. We are therefore anxious while they are at the mercy of man for food, that he will give them fair play in order that they propagate their species. We would be pleased to hear from any one interested in this subject, and communications giving additional information regarding the natural history of the lobster, or statistics of the trade will be of value.—C.

THE SHOOTING SEASON.

The time has again arrived when the Sportsman may lay aside his rod and reel, and with gun in hand betake himself to the forest or marsh, in search of game on which to exercise his skill. The young of the Black Duck, Teal, Woodcock, Ruffed Grouse, &c., are now pretty well matured, and strong enough on wing to afford excellent sport. During the early part of this month great numbers of Black Duck and Teal are shot in our various marshes, the hunter at this time, being usually able to secure a fair number of birds by paddling through the reedy streams, which are their favourite resorts, and picking them off as they rise at the approach of his boat; later in the season, how-

ever, as they become more hunted, these birds acquire a wariness which makes it necessary to adopt a different mode of procedure; decoys and covert flight shooting are then resorted to.

The Black Duck is at all times exceedingly wary, and will seldom notice artificial decoys. Sportsmen should therefore provide themselves with a few live ones, as though inconvenient to carry, they cannot always be procured in the vicinity of the shooting grounds. Woodcock and Snipe are not yet numerous; the greater number of these birds breed in the far north and migrate at the approach of cold weather, stopping for a short time at their favourite grounds as they pass, affording the sportsman an opportunity to vary his sport. During October the various species of Fall Ducks arrive in great numbers, and as they decoy readily, their flocks are considerably thinned before they have visited us many days. Although decoy shooting is tolerated in the greater part of the Dominion, it is not considered sufficiently destructive by some "pot hunters," and the use of swivel and punt guns is sometimes resorted to; this is, however, illegal, and should not be permitted.

Golden, Black Bellied and other species of Plover usually appear in great numbers during the latter part of September, and remain for some time before proceeding to their winter feeding grounds. Last, but not least of our game birds, is the Ruffed Grouse; as this bird does not migrate in Winter, it is generally sought by the sportsmen later in the season when most of our other species of game birds have departed. It is difficult to imagine a more exhilarating sport than a tramp after Grouse on a frosty morning in November. With a staunch, well trained dog, a fair bag may sometimes be secured, but as a rule the misses are frequent, and the sportsman must not be disappointed at an average of which he would feel ashamed if in the pursuit of other game.—WALLACE.

SHOOTING RESERVES.

The Montreal *Star* of the 8th instant, would make us believe that there are shooting reserves in Canada. That the Government should offer facilities for letting out certain rights to sportsmen. What rights? Where are these shooting rights or reserves? We have never heard of them and do not believe they have an existence. We know that the Government claim all the rivers, and offer to lease them every season? In regard to inducing Europeans to come to Canada for sport, we have one instance this year of how gentlemen from England are treated when they lease a Canadian river.

If the Government has shooting reserves, we would be pleased to know where they are? It is a new thing for us to learn that the lovers of the rifle and the fowling piece are not to enjoy the sport in season without asking permission from Government. When that pleasure is taken from the Canadian Sportsman, farewell to his rural liberty. It is quite sufficient that the Fishery Department lease the Salmon rivers without taking from the subject his rights in the marsh or forest.—C.

THE MONTREAL "STAR" ON FISH AND GAME.

The above paper in its issue of the 27th ult., speaks editorially on our Fish and Game. He says "out of five thousand eggs hatched by fish in a *natural* way, only about *one* egg will hatch out; out of five thousand eggs hatched in an artificial way, *four thousand* on an average are hatched out."

We ask the *Star* where he obtained this information? and furthermore what species of fishes are referred to?

The artificial breeding of fish, especially *Salmonidæ*,—is certainly good, and doubtless may be productive when carried on in rivers connected with salt water; but to cast young fishes of the above order into an inland lake, is the most unscientific and expensive mode of fish propagation we have ever heard of.

The *Star* thus tells us that nature has lost a force, which is now supplied by artificial means. Nonsense; the disparity is too glaring, and has no facts to sustain it.

He says: "Take for instance, whitefish;" What whitefish? Why not name the species? Whitefish of various forms occur in almost every Province of the Dominion, and it may be possible that their isolation is the cause of enmity between them. Be this as it may, we have no proof that the parent whitefish devours its own eggs. It is, however a fact, that the sea trout will follow *Salmo salar* to its spawning grounds, where it devours the eggs of the salmon.

The most absurd statement made by the above paper is that ducks known as "widgeon redheads, canvas-back and bluebill devour fish spawn in immense quantities." This information is altogether new in an ornithological view, and the writer should certainly be awarded a leather medal for the discovery. Again, speaking of shad, it is useless to experiment on that fish; if they are allowed to propagate in their old natural way, the markets of the United States and Canada will always be well stocked with this fish in season. We contend that the artificial breeding in inland waters of fishes that frequent the sea, is both a waste of money and time, and the sooner it is abandoned the better. Protection during the close season for each species, is what we wish to see carried out, and if that is properly performed, the fish will do what the Creator commanded they should. It is nonsense to say that "our fish would go just as the buffalo and the moose are going." No living man can make a comparison between the forces acting on terrestrial and aquatic animals, more especially in regard to their abundance or scarcity; and if the writer in the *Star* had lately passed through the forests frequented by moose and caribou, he must have done so with closed eyes, as these animals have never been known to be so abundant as at present. We could inform the writer what has produced this, but that is not necessary at present. We

thank the *Star* for the latter portion of his article, and, if when writing on "Fish and Game," he would keep his eye on the "Pot-hunter," discover, arrest and fine him, then the space appropriated by the paper would be of use to all parties concerned.—C.

RARE BIRDS IN CANADA.

It may not be generally known that the Green Heron (*Butorides virescens*) breeds in Canada. During three years past, a few of these herons have been forming small communities in neighbouring swamps and woodlands adjacent to Missisquoi Bay. Mr. Chris. Beatty, our old sporting friend, presented us with a very good specimen on the last day of August. A sharp look-out should be kept for strange ornithological forms, as it is probable that many rare species which visit latitudes north of Montreal may be overlooked. In the month of June, several years ago, we shot a male of the Blue Bunting (*Cyanospiza parvella*) at Baie Mille Vaches, on the north shore of the St. Lawrence. Instances like this illustrates the changes that occasionally occur in the latitudinal ranges and longitudinal circles of birds. The following birds were shot by Mr. N. A. Comeau, at Godbout, Lower St. Lawrence, in latitude 49 20. Yellow-headed Blackbird, (*Xanthocephalus icterocephalus*.) The occurrence of this bird in the above latitude is to us a paradox. Mr. Comeau is an intelligent student of Natural History, and his keen eye detected this bird in the neighbourhood of his house. We are not surprised when we record the accidental appearance in Canada of birds and insects belonging to the far West and South. Insects have been discovered in Canada which have so far puzzled Entomologists. They are supposed to come here by the force of atmospheric currents, but this is mere theory. Several specimens of the Blue Bunting were shot, and a nest of this species containing four eggs was found in a stump near Mr. Comeau's house. A nest of the Hudsonian Tit (*Parus Hudsonicus*) with four eggs was also found in an old

stump in the vicinity of Godbout. This is the second nest of this species found in Canada; Audubon having found the first while travelling in Labrador. The nest is a curious structure. The bird selects an old stump or dead tree, making a cavity similar to that made by the Black-cap Tit or Downy Wood-pecker. The Hudsonian Tit has an eye to comfort for itself and progeny; it lines the interior walls of the tree with hairs from the common white Northern Hare. When the nest is properly taken out it resembles a bag generally about twelve or fifteen inches long. The youth who discovered it, obtained ten dollars for nest and eggs.—C.

THE GODBOUT RIVER.

Considering the scarcity of salmon in the St. Lawrence this season, the Godbout scored a fair average. Two gentlemen fished it with the following result: 53 salmon, averaging about fourteen pounds each; 15 grilse, averaging four pounds each. A large number of sea trout were caught by anglers, besides 5635 trout taken by the seine after the salmon season was over.

THE ST. CHARLES RIVER.

In an article on Salmon and Trout Rivers and Lakes of Quebec in our January number, we made remarks on the St. Charles, near the city of Quebec. This river, at one time worthy of being angled for Salmon and Sea Trout, was doubtless a source of pleasure to a few Quebecers who loved the sport at that time, knowing also that these luscious fishes passed their doors towards the pools near Lorette. But alas! a change has come over the waters of the St. Charles, and the delicate Salmon will not now enter its poisonous waters.

It appears that a few years ago a building was erected on its banks, near Lorette, for the manufacture of pulp or paper of some kind. A pipe leading from these premises to the river conveys the refuse and poisonous acids into the clear spring water of the river, preventing the passage of fish and destroying all that

frequent its neighborhood. Why do the Fishery Department allow the waters of this river to be poisoned, when its officials are aware that a statute exists to punish any one who willfully do so? We demand inquiry and some explanation must be given in regard to this filthy drainage. The Department at Ottawa should see that a river long known to have been frequented by Salmon, and in which Sea Trout were seen a short time ago, is not to be destroyed with impunity. We are determined to expose every case of this nature coming to our knowledge, and when the parties or authorities who should abate the nuisance are slothful, we will have no mercy, but lash with the full force of our will.

C.

CANADIAN MUSEUMS.

When this Magazine was issued last January we intended to give sketches of the Natural History Museums of the Dominion, their means of support, and how the material is procured; in fact, all our knowledge regarding them, together with the influence they are supposed to exert in the instruction of youth. We, therefore, commence with

THE LITERARY AND HISTORICAL SOCIETY OF QUEBEC.

This is, probably, the oldest Literary Institution in Canada. It has been, however, very unfortunate—fire having destroyed its library and collections on two occasions, at least. Its present Museum was started when the Society became tenants of Morrin College, in 1861, after the fire which destroyed its library and Museum in the Banque Nationale building on John street, Quebec. The Museum is now on St. Stanislas street, in the College building. The collection is slowly increasing, but the room is too small, and poorly lighted. The collections of animals and birds are in good preservation, and there is also a fair show of ethnological material, affording instruction to students attending the College. Therefore, it is useful in its present position. We have seen enough of isolated collections or museums

in this country to speak intelligently on the matter, and we may say that, outside of an educational point of view, the public take little interest in them; but when connected with an educational institution, parents will support them because they are cognizant of the fact that the youth have a chance of obtaining a more accurate knowledge of forms preserved from every branch of nature. When Natural Science is taught in schools it is highly necessary that collections of minerals, shells (fossil and recent), and a good herbarium should be at hand, to illustrate lectures. When youth is determined to study, it is proper that the love for it should not be cooled by other objects in the way of arriving at the truth. We say that every University, College or School having a good Museum, claims the hearty support of the public, because the material forming these collections cost a large amount of money. Since the Literary and Historical Society of Quebec became associated with Morrin College, its Museum is a source of attraction, and many donations have been made to it of late years.

C.

REVIEW.

The Annual Reports of the Montreal Horticultural Society, and Fruit Growers Association of the Province of Quebec, are full of original matter, and extremely interesting during the last five years. We are pleased to state that the issue of 1880 is the best of the series. The article on "Forest Tree Culture," by the Hon. H. G. Joly, is just what we would wish to insert in our journal, and we have a peculiar feeling—not jealousy—when we cannot procure these profound investigations. Mr. Joly is a noble example of the son following the footsteps of his father. We have had the pleasure of being acquainted with the latter; it will suffice to say that in a scientific view one is the prototype of the other. Mr. Joly's experiments are well worth repeating. "Forestry in Canada," by A. T. Drummond, a gentleman who has devoted much leisure in promoting modes for

conserving our forests—is well worth perusal—it being well-timed, and we trust that the Government of Manitoba will see the utility of adopting Mr. Drummond's suggestions. We are highly delighted with the article on the "Native Plants of the Province of Quebec," by J. B. McConnell, M.D. The Department of the Interior should reprint the doctor's description of our plants in the next Report, and distribute them largely throughout Europe. This is just the kind of information required by Europeans. It gives at once a fair botanical view of this Province, and from which an easy comparison may be made between it and the Western and Northern Portions of the Dominion.—C.

Correspondence.

To the Editor of the CANADIAN SPORTSMAN and NATURALIST :—

FROM A CANADIAN SPORTSMAN IN
FARGO, DAKOTA, U. S.

SIR,—Your welcome bunch of the CANADIAN SPORTSMAN and NATURALIST, came to hand in due time. I devoted a pleasant hour looking over what some of my old friends and brother sportsmen have been doing during the last two months in Canada. I suppose that although I am now in Dakota, I am still Canadian and a sportsman at that. I write this letter regarding sport in this portion of the Northwest. Fargoites have little time for pleasure, but we manage to get an occasional day. Three of us sallied forth, duly equipped, for one of the numerous sloughs near here. On our arrival we took up positions about two hundred yards apart, and sent our dogs (trained for the purpose) into the rushes to beat up the game, which occurred in countless numbers. Small flights of duck passed us almost all the time. I soon warmed up to the sport, and as there was a sharp wind blowing, I need not inform my duck-shooting friends (including Chris.) that it was no child's play to score a good average. I managed to keep my retriever busy, and uphold the honour of a Canadian gunner, as I scored the largest bag, expending the fewest cartridges of the party, who were no tyros. My bag was thirty-seven ducks to forty-four cartridges, and even you, hoary patron of sportsmen, must, I think allow that that was fairly good on a windy day.

In the afternoon we took a stroll across the country and shot prairie chickens, concerning which I have come to the conclusion that they are better eating than they are sport. We all succeeded in making ourselves tired and thirsty on this tramp, and were highly pleased to get back to our drag and a case of "Budweiser" we had in it. Any one not knowing what Budweiser is, let him refer to some one who has travelled west of Chicago; suffice it to say, it is a substitute for water, largely used by the inhabitants of this part of the world. I contemplate being one of a party going north to the Devil's lake, (so-called) for antelope shooting shortly. If I do make the trip and you care for such loose-jointed rambling notes for your spicy little journal, I will be very glad to give you an account of the expedition and its results, and may send you a specimen or two that I come across.

Wishing you all possible success,

I am yours, &c.,

WHISTLE WING.

ROBINS.

DEAR SIR,—I quite agree with everything your correspondent "Hammerless Greener" says respecting the unsportsmanship and cruelty and folly of killing robins. The tradition to which he refers as to the name "God's bird," dates further back, I think, than the legend of the Babes in the Wood. The tradition is "that while our Lord was on his way to Calvary, a robin pecked a thorn out of his crown, and the blood which issued from the wound falling on the bird dyed its breast with red." This tradition, however, of course refers to the English robin redbreast, and not to the Canadian miscalled robin. While up the lakes last week I captured a frog with a tail. The animal was 2½ inches, the tail measuring one inch. The tail is, of course, the tadpole tail, which from some cause or other, failed to become detached when the legs were developed. It has grown with the growth of the frog, and is about a quarter of inch wide at the insertion.

VINCENT CLEMENTI.

Peterboro', Aug. 29th, 1881.

NOTE.—The bird called robin in America, i. e., *Turdus migratorius*, has neither generic or specific connection or resemblance to the robin red-breast of Europe. Our correspondent quotes a curious, and to us unknown, phrase regarding God's bird, and we are anxious to know where he obtained the information. It

appears to us that there is an overstretch of history in the matter which is veiled in obscurity and we are anxious to see the quotations.

The tadpole form of frog is by no means rare in the vicinity of western lakes. The development of young frogs depends on the amount of warmth they receive during their early aquatic stages. The eggs or spawn are deposited in shallow semi-stagnant water, and the heat from the sun produces the tadpole.—C.

A TRIP TO RIGAUD.

On the 19th of last June a friend and myself anxious to avoid the heat of the city, left to enjoy a couple of days in the neighboring forests near Rigaud, a village situated on Rivière à la Grasse, said to be forty-five miles from Montreal. We obtained a boat and entered that river at its mouth, where it flows into the Ottawa river. In this vicinity we noticed kildeer plover (*Aegialitis vociferus*) in a ploughed field. The occurrence of these birds at this date indicates that the locality may be a breeding-ground; we, however, discovered no nests of the species. By crossing the Ottawa, we landed on Jones' Island, a part of which is cleared, forming a good farm. Passing through a patch of ferns, a woodcock was flushed, but we could not find its nest. A few days afterwards I met Mr. Jones, who informed me that he saw young woodcock, and he also said that about the 10th of May, a black duck's nest was found on the Island. The eggs of this duck (*Anas obscura*) were taken away and placed under a domestic hen, and they were hatched in due time, but the ducklings followed their wild nature, took to the water, and never to his knowledge returned to their foster mother. We enjoyed the scenery, and the exercise gave us vigour, but there was one annoyance to mar our pleasure; mosquitoes swarmed upon us, and we were obliged to leave the island sooner than we anticipated.—WOODCOCK.

Montreal, 27th August, 1881.

OUR FOREST TREES.

(CONCLUDED.)

CHOKE CHERRY; *P. Virginiana*.—A tall shrub or small tree. The wood is of no value, but the tree is very pretty when in flower and fruit.

HONEY LOCUST; *Gleditsia*.—This tree has been introduced from farther south, where

it often reaches a great size. Its graceful appearance and long, sweet pods make it an interesting tree. The wood is very hard, but is much worked by worms, and it is difficult to get good specimens of much size.

RED MAPLE; *Acer rubrum*.—This is also called the swamp or soft maple, and is a tree of middling size, growing abundantly in low grounds. The bright red flowers in spring, and the brilliant leaves in autumn, make the name Red Maple highly appropriate. It is not uncommon to see a single tree in a copse of maples, turning to a crimson or scarlet, as early as August, while all the surrounding trees remain green. This is believed to be a proof that the frost has very little to do with the autumn colors. The wood is whitish compact and firm, is well suited for turning, and takes a fine polish. It is much used for common bedsteads, and other cheap furniture. It is however not strong, and when exposed to dampness speedily decays. Authorities differ widely about the maples. Mr. Emerson asserts that the curled maple is a variety of the red, and the bird's eye, a variety of the sugar maple.

WHITE, OR SILVER MAPLE; *A. dasycarpum*. This rapid growing and handsome shade tree is abundant in western New England, but not common eastward unless planted by man. It reaches a good height, and forms a fine spreading top. The roots are believed to impoverish the soil around them by their long ramification. As intimated above, the wood is said by some authorities to be of little value, while others place it at the head of the maples. Its sap contains some sugar, but far less abundantly than the sugar maple.

ROCK, OR SUGAR MAPLE; *A. saccharinum*.—This noble and valuable tree often grows to a height of eighty feet, and when in early foliage and flowers, can scarcely be surpassed in beauty. South of New England it is more prized as a shade tree, though its slow growth detracts somewhat from its general merits. The wood is much used in cabinet work, being capable of a very fine polish. But it is as a source of sugar supply that this tree claims its highest value. There is good evidence that from 35 to 40 pounds of sugar have been made in one season from a single tree, and that a barrel of sap has been taken from one trunk in 24 hours. These are extreme cases. The average is from 12 to 30 gallons of sap or 3 to eight pounds of sugar from a tree in one season. This industry is one of the chief sources of income to New England farmers.

STRIPED MAPLE; *A. Pennsylvanicum*.—This pretty tree is seldom seen more than 12 feet in height, yet it occasionally measures twice that figure. In Maine it is called Moose Wood, the bark and tender branches being the favorite food of the Moose. The bark is beautifully striped with green and brown. The leaves are successfully applied to inflamed wounds and bruises but no use has been made of the wood.

STAG HORN SUMACH; *Rhus typhina*.—This tall shrub sometimes rises to the height of 25 feet and thus becomes a small tree. It is conspicuous in the autumn by its bright red clusters of fruit, and its leaves of varied and brilliant hues. The leaves and bark are used in tanning, and the root has been found efficacious in fevers.

BASSWOOD; *Tilia Americana*.—This tree standing alone forms a beautiful and striking object in the landscape, from its regular conical outline and its rich masses of foliage. Its wood is soft and white, and of a fine close grain. It is much used for the panels of carriages and wagons, for bottoms and sides of drawers, for broom handles, and where pine is scarce, as a substitute for that in inside finishing work. It is also carved into bowls and toys, and its charcoal is by no means inferior.

A GENERAL DELUGE.

BY G. W. BROWN, M.D.

(From *Our Home, and Science Gossip*.)

A tradition prevails among all nations that a general deluge has inundated the world, and that the globe has been peopled from the east.

Without regard to the sacred writings of different nations, let us see if there is any probable foundation on which to predicate an opinion that a universal flood has swept over the earth, and destroyed all life which it contained, save such as was preserved in some miraculous manner for the perpetuation of the species.

It is well known to geologists that continents and islands have been frequently submerged by the ocean, and have as frequently emerged from their watery beds. It is on such a hypothesis alone we can account for the immense lime formations, with their fossil remains, lines of stratification, and other evidences of aqueous formation, extending over almost limitless regions.

The microscope reveals the fact that all our native coals, even anthracite and cannel, have a ligneous origin. They are the products of the immense vegetable growths of the car-

boniferous period, when the earth and temperature were especially adapted to the production of this form of life. By some mighty convulsion the continent on which they had grown sank below the sea level; the waters rolled over them with great force, prostrating the dense verdure. Each succeeding wave brought a fresh deposit of debris, which buried it deeper and still deeper beneath the ocean bed. The phosphate of lime, held in solution by the higher temperature of that era was precipitated by its reduction, in which are now found the fossilized remains of the moluscan and crustacean formations, of that era, and adapted to its elevated temperature.

Again the bed of the ocean was elevated, and became dry land. Another growth of vegetable life followed, to be in turn submerged, as in the preceding instance, and then emergencies and depressions followed each other through long cycles, as numerous as different strata of coal are superposed one above another. The chemical conditions which prevent wood from decomposing under water, deprived of the oxygen of the atmosphere, to which were added immense pressure, effected its transformation into coal.

Volcanic eruptions, more grand and terrific than anything we have any conception of, in consequence of the then comparative thinness of the earth's crust, the interior heat of the molten mass beneath, and the denser atmosphere surrounding it, made the depressions and upheavals more frequent than through subsequent periods.

When the temperature of the surface was sufficiently reduced to admit of it, evidenced by their fossilized remains in the rocks, the earth was peopled with higher and higher forms of life, each emerging from lower forms, until, lastly, man appeared. Through the long and almost interminable ages that followed, his successors spread over continents and islands. Each was populated with such orders of life as was best adapted to its peculiar climate and productions. Thus animal life was adapted to the surrounding conditions, not the conditions to the needs of the animal, for it was of a later creation.

Those immense bodies of land, now covered by the Pacific, Indian and Atlantic oceans, sometime in the very remote past, were continents. At the same time much, and perhaps nearly all the continents of Asia, Africa, Europe and America, formed the beds of cotempaneous oceans.

(TO BE CONTINUED.)

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THE
CANADIAN SPORTSMAN
AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, OCTOBER 15, 1881.

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THE CANADIAN SPORTSMAN AND NATURLIST.

No. 10.

MONTREAL, OCTOBER 15th, 1881.

VOL. I.

WILLIAM COUPER, EDITOR.

W. W. DUNLOP, ASSISTANT EDITOR.

ERNEST D. WINTLE, TREASURER.

DESTROYING DEER.

We have received the Fourth Book of the Michigan Sportsmen's Association, being the transactions in full of the Sixth Annual Session held at Lansing last January. It embraces several questions of vital importance to the Association, especially regarding the Fish and Game of the State. The Sportsmen of Michigan deserve the sympathy and support of all who love to use the rod and gun, and we trust that the State Legislature will embrace and carry out the Laws which the sportsmen of Michigan are anxious to enforce. The late enormous slaughter of deer within the range of the Sporting regions of the Association is sufficient to cause enquiry, and if such illegal killing is not prevented, the ultimate result will be the total extinction of *Cervus Virginianus* in the State of Michigan. We give the following extract from Prof. H. B. Roney's elaborate paper on the destruction of deer in 1880.

TOTAL EXTINCTION INEVITABLE.

"These statistics give a grand total of 70,000 deer, or about 10,000,000 pounds of venison destroyed in Michigan in the one year of 1880. At this rate how long will it take to exterminate the species in Michigan? How long can the State stand this drain, before the last relic of the noble race disappears? Just about five years, and they will become scarce in less than twelve months, as indeed they are already. And when the present supply is gone, where can the next come from? Certainly not from the North, East, or West, for that is a geographical impossibility, while from the South it can not be expected. Unlike other States which border upon vast wildernesses out of which a new supply comes to replenish the disappearing race, the Lower Peninsula of Michigan, when it has once permitted this noble animal to be exterminated between lakes Michigan and Huron, has for

ever lost a great source of wealth and valuable food supply, which if now wisely preserved will last for generations."

The Sporting Clubs of Canada will have to keep a sharp lookout in order to prevent a similar slaughter along the woodlands of our Northern lakes, because we are fully aware that when market hunters are not allowed to enter the woods of Michigan, they will doubtless have to procure the animals from other localities, and they will enter Canada for their game. We have had an instance of this from market fishers who had a contract to supply American hotels with a weekly weight of Brook Trout, the fish being then supplied from the Adirondacks. The ponds or lakes of the latter locality were quickly exhausted and could not supply the demand, but in order to do so, the contractors came to fish the trout regions in the Province of Quebec. One thousand pounds was the weekly weight sent out, and this was carried on profitably for nearly three years before the Fishery Department stopped it. The taking of this quantity of trout at that time from the Laurentian lakes, did not, in our opinion, make a great difference in the way of decreasing the annual production, as the natural facilities for the propagation of trout in our Northern lakes and rivers, are not surpassed in any other portion of the world. The spawning-grounds adjoining our northern mountain lakes are cool and numerous, and will therefore be always productive.

It is different with deer, which are only found within their food ranges and are accessible during the open season. We cannot allow American market hunters to enter these deer frequenting localities to slaughter them as they have been in the wilds of Michigan. This privilege is only for the humane sportsman who goes out to enjoy a few days, not with the purpose of making money from his skill in handling the rifle—not with the intent of destroying

more than can be useful to himself and friends—not with the selfish thought of sending the carcasses of the deer to market. To such a sportsman this kind of recreation partakes of the thrill well described by the ancient hunter. But to the market hunter, no such thrill enters his breast, his motive consists in quality, quantity and weight, knowing well that he can easily obtain a market for his ill-gotten flesh. The species of deer inhabiting our northern forests have increased since the British troops have been removed from Canada. The enormous quantity of moccasins and snow-shoes made for soldiers was, in a great measure, the cause of the scarcity of Moose and Caribou. The Indians who made the articles had to obtain the material, and the Canadian woods and mountains were hunted in and out of season to supply the demand.

It is reported that the late bush fires destroyed a number of deer, and it is furthermore said that many were shot while retreating from the heat and approaching clearings. Thus between woodland fires and the power of man, little chance had they for existence. Those who destroyed the innocents under these circumstances and at such a season, deserve to be stripped and scourged. We trust that at no distant day, a law will be made and become powerful enough to reach cases of this kind, and the unmanly conduct severely punished.—C.

CANADIAN MUSEUMS.

THE NATURAL HISTORY SOCIETY OF MONTREAL.

The collections of the above Society are generally speaking, well represented in regard to American forms. There is also a large quantity of foreign material, making altogether a very good museum, and we are pleased to say it is in a fair state of preservation at present. The collections, as a whole, are probably the oldest in the Dominion. For a number of years they were under the superintendence of a paid Curator, at that time known as a "Scientific Curator," who did very

little in regard to the arrangement of the American birds. In accordance with the advanced knowledge of nomenclature, the new system of classification should be one of the first duties that a Scientific Society had to perform. The last time we visited this institution, it was remarkable that some conspicuous foreign birds had no names attached to them; yet the Society had been paying a man during a series of years to perform this work. The Society is sustained by private subscription which has been lately reduced to Three dollars per annum for membership. The local government gives it annual aid to publish its transactions. We have no knowledge of its financial position at present, yet, we may say that this Society shows evidence of being somewhat exclusive. If its Council would like to see a good balance sheet, all they have to do is to place its library on the same foundation as a Mechanics Institute; open the Museum to the children from the various schools, say at a few cents per head. By so doing the building will always be full of inquisitive youths, who are in search of knowledge, especially regarding objects of Natural History. We would like to see the unhandled worm-eaten books on Natural History that are locked up on the shelves of some institutions made use of in the same way as in lending or church libraries. Are not books written and made to be useful? They cannot do any good while locked up against those who can pay for the privilege of reading them. The Natural History Society of Montreal has a grand opportunity of establishing a circulating library, which of itself, would be a source of strengthening its membership, and we presume if this is done, its doors will not remain so long closed to the general public, as they have hitherto been. In conclusion, this institution must, ere long, do something in the way of claiming the attention of the public; it will have to abandon its present exclusive position, and give a chance to those who are anxious to give it reasonable support. Unless this is done a

rival Museum may offer easier facilities for instruction, and then the long-continued want of push and management will prove unfavourable to its prosperity.—C.

THE MIGRATORY QUAIL.

This bird which has been introduced into Canada and the United States during the past few years is the "*Coturnix Communis*" of Europe, a species much smaller than our "*Virginianus*" or Bob White. Unlike the latter it is capable of long and sustained flight, migrating annually from its winter home in Africa, crossing the Mediterranean Sea in its course and dispersing to its breeding places throughout Europe, from whence it again returns on the approach of winter. This bird resembles our Western Quail "*Ortyx Virginianus*" very much but it is about one third smaller and the throat of the male is marked with dark brown or black from the bill downwards.

The nest is simply a depression in the ground lined with a little grass, and is usually situated in a meadow or field. The eggs 12 to 15 in number are of a pale greenish colour, blotched profusely with brown and are about the size of those of the American Robin. The female while incubating sits very close on the nest, the clatter of a mowing machine being sometimes not sufficient to cause her to leave and numerous cases have been recorded where the bird was decapitated by one of these machines rather than leave the nest.

The young birds leave the nest as soon as hatched and mature very rapidly, affording good shooting by September.

As the climate in some of the northern portions of the Dominion is too severe in winter for "*Virginianus*" it has been hoped that the introduction of the Migratory species would be the means of providing our sportsmen with Quail Shooting, as it seems only reasonable that these birds will migrate here as well as in Europe. During the past two years numerous birds have been liberated at St. Stephen,

N.B., Quebec City, Lachine, and other localities. Some young birds were captured at St. John during the same season those had been liberated at St. Stephen and were evidently the young of the latter as none had been liberated nearer. Several nests were also found this season at Lachine where the birds had been introduced in the spring, so there is no doubt of their breeding readily; the most important point is in regard to their returning the following season as in Europe. We believe the experiment has not yet been sufficiently tested in Canada to determine this, although it is reported some of these birds have been seen in the vicinity of Quebec, where they had been liberated the preceding season. The fact of their returning once ascertained without doubt, we have many localities affording suitable covers which would in a few years become valuable shooting grounds. Special legislation for their protection would however be required until they became sufficiently numerous, and generally distributed. Let us hope the introduction will be a success and that in a few years we will be able to number these pretty Quail with our game birds.—WALLACE.

CANADIAN LOBSTER FISHERIES.

In the September number of this Magazine, we spoke of the thousands of Lobsters taken annually from the St. Lawrence Gulf waters of Canada for canning. When the article was written, we had no idea that lobsters were fished out along the Bay Chaleur. We anticipated the first decrease from Prince Edward Island where we are informed the catch is very large during the season. Lobster packers will have to be careful not to overdo this crustacean fishery, as the animals are differently constructed from fish, and have not the power or facility of wandering like the latter. It just comes to this, that the places where lobsters were formerly abundant cannot be so now, and will not pay because the packers, in many instances made no determined restrictions in regard to the capture of the

females, the *ova* of which were destroyed by thousands. If this system is to go on for a few years longer, the lobster canning business will be at a stand still for half a century at least, and the crustacean will become a luxury. It takes a long time to produce an adult lobster; it has to go through peculiar phases of existence before it becomes in condition to be food for mankind. These facts should not be overlooked but remembered by the men now in the business; its continuity rests with them. In the article above referred to, we mentioned that the Island of Anticosti was a good locality for lobsters, then stating that there is a lack of keen venture among the Canadian people in allowing this fishery to go to waste. We are astonished that the Americans did not place a cannery on Anticosti years ago. But now, that the crustacean has been exhausted in several places on the south coast of the Gulf, one New Brunswick firm is preparing to establish a cannery on an extensive scale on that island. So much good has therefore arisen from the influence and utility of our remarks, and it will be the aim of the CANADIAN SPORTSMAN AND NATURALIST to continue to place before the public, other matters of equal interest.—C.

OUR GAME.

In former numbers of this magazine, we reprinted reports of the Michigan Sportsmen's Association on the Nomenclature of a portion of our game. Additional matter on this subject was read by President Holmes at the last meeting, and we have taken the liberty to compile it to suit our Canadian Sportsmen, giving full credit to the venerable Dr. and the Committee for their report on popular and scientific nomenclature. In order to show that there is a similarity of species occurring in the Provinces of Ontario and Quebec, with those recorded from Michigan, we append certain marks to indicate their geographical range.

REPORT OF THE MICHIGAN SPORTSMEN'S COMMITTEE ON NOMENCLATURE.

The careful analyses of classification with reference to certain genera submitted at the

session of 1880, will, we think, sufficiently indicate the methods adopted by this committee in arriving at conclusions, "both popular and scientific." It will therefore be unnecessary to occupy your time in the enunciation of our analyses of the genera herein considered, and we will proceed at once to our task, and continue the work of making a correctly named list of game animals, by naming a portion of our water-fowl. We do not intend to make a complete list of any order or family, but to confine ourselves to such species as occur either habitually or accidentally in our State.

As belonging to the latter class we may mention the swans. There are but two species that can be considered as belonging to our fauna, even accidentally. These are the whistling swan, *Cygnus Americanus*,* also called the American swan, and the Trumpeter swan, *Cygnus buccinator*.

Of the goose family there are but two genera containing species likely to be found within the borders of our commonwealth.

The goose genus, proper; all having bright or light-colored feet and bills, and white or much varied plumage, namely: White Fronted Goose, *Anser albifrons*;* also called prairie brant, and speckled belly. This is probably identical with the white-fronted goose of Europe.

Snow goose, *Anser hyperboreus*;† also called white brant.

Lesser Snow Goose, *Anser hyperboreus*;‡ varietal *albatus*. Like the snow goose, only smaller.

Blue Goose, *Anser caerulescens*; also called bald brant.‡

The brant genus, proper; all having black feet and bills, and the head and neck black with white spaces, the general color of the body being gray, namely: The

Canada Brant, *Branta Canadensis*;‡ also called Canada goose, gray goose, and common wild goose. This is the only goose—or properly speaking—brant, that is common to Michigan. There is a variety, *Leucopareida*, which is not known to have occurred in this State, while the Hutchins Brant, *Branta Canadensis*,* var. *Hutchinsii*, is quite generally distributed, and is smaller than the Canada brant.

The Brant, *Branta bernicla*,‡ also called brant goose, barnacle goose. There is a well defined variety of this brant, viz:

The Black Brant, *Branta bernicla*,‡ var. *nigricans*; on which the black is more extensive.

Of our ducks there are three sub-families, viz., the *Anatide*, the river or fresh-water ducks; the *Fuligulionae*, the sea, or deep water, ducks, and the *Merginae*, the fish ducks.

Of our shoal-water or river ducks we will enumerate as belonging to our avi-fauna:

The Mallard, *Anas boschas*. ‡ The male is also called the green-head, and the female the gray duck.

The Black Duck, *Anas obscurus*, ‡ also called dusky duck, and black mallard.

The Pintail Duck, *Anas acuta*, ‡ also called the sprigtail.

The Galdwell, *Anas streperus*,* also called gray duck.

The Widgeon, *Anas Americana*, ‡ also called the American widgeon, and bald-pate.

The Shoveller, *Anas clypeata*,* also called broad-bill and spoon-bill.

The Wood-duck, *Anas sponsa*, ‡ also called Summer duck and tree duck.

Of the teal genus we have here:

The Green-winged Teal, *Querquedula Carolinensis*. ‡

The Blue-winged Teal, *Querquedula discors*. ‡

Of the deep-water or diving ducks found more or less habitually on our waters during their migrations, we notice:

The Canvas-back Duck, *Fuligula vallisneria*. ‡

The Red-head Duck, *Fuligula ferina*, var. *Americana*, ‡ also called pochard, red-headed widgeon, and rufus-necked duck.

The Blue-bill Duck; *Fuligula marila*, ‡ also called big black head, greater scaup duck, raft duck, flocking fowl, and shuffler.

The Little-blue bill, *Fuligula affinis*; ‡ with the same local names as are applied to the next preceding species, with the word little prefixed.

The Ring-necked Duck, *Fuligula colaris*;* sometimes improperly called blue-bill.

The Golden eye Duck, *Fuligula clangula*, ‡ also called garrot.

The Iceland Golden eyed Duck, *Clangula Islandica*, ‡ breeds in trees like the wood-duck. (Nest found in the Province of Quebec.)

The Buffle-headed Duck, *Fuligula albeola* ‡ also called butter-ball, spirit duck, and dipper.

The Lake Huron Scoter, *Fuligula bimaculata*,* also called American black scoter and coppennose.

Of the fish ducks we have three species viz:

The Goosander, *Mergus merganser*, ‡ also called saw-bill,

The Red-breasted Merganser, *Mergus serrator*, ‡ also called fish duck and sheldrake.

The Hooded Merganser, *Mergus cucullatus*, ‡ also called saw-billed diver.

The list embraces a portion of the aquatic birds frequenting Michigan marshes and waters. If we would all cultivate the habit of observing and carefully noting novelties, anomalies and and unusual occurrences, it would add immensely to the pleasure of our recreation trips, and would give us something to think besides slaughter and a "big bag."

Your committee ask the further attention of the association for a few minutes while we review a portion of the report on nomenclature made last year, which was accepted, and the recommendations adopted, excepting that part pertaining to *Ortyx Virginianus*,* called quail at the North, and partridge at the South. We do not propose to go into a minute description of the three birds involved in this question, as they are too well known to intelligent sportsmen to require it. But we wish to submit a few generalizations. The name quail has been applied to the *Coturnix communis* (the true quail) for ages. No one disputes its correctness. It belongs to the European bird, that has been quite largely introduced into this country within the last few years. It is equally true and undisputed that the quail, *Coturnix communis*, sometimes called "migratory" quail, is distinct from our American bird, *Ortyx Virginianus*, not only specifically but generically distinct. In habits these two birds differ as essentially as the barnyard fowl from the Guinea hen. It is manifestly improper to call two entirely different birds by the same name, and as the name quail properly and indisputably belongs to *Coturnix communis*, it certainly does not belong to *Ortyx Virginianus*.

Again the name partridge as indisputably belongs to *Perdix cinerea*. (The true partridge.) No one disputes it. Now, although our *Ortyx* is nearer to *Perdix* than it was to *Coturnix*, yet it is likewise essentially different from the former. Ornithologists acknowledge it to be generically different. And as *Perdix* was christened partridge in vernacular long before *Ortyx* was known to civilized man, he is certainly entitled to the name. As before stated, it is manifestly improper to call two distinct birds by the same name. Therefore our *Ortyx* should not be called partridge.

In the light of this simple logic we see why the controversy that has been so warmly carried on for years as to whether our bird should be called a quail or a partridge, has

been so entirely unsatisfactory. The simple fact is, he should not be called either—because he is not either. The controversy has had just as much point as would a discussion of the question as to whether man should be called an ape or a baboon. He should not be called either, because he is neither.

Then what shall we call our *Ortyx*? The term Bob White has been proposed for him, and is occasionally used, but it is not euphonious, and does not seem to meet with favor. Although it is not inappropriate as applied to him, it will not suit his cousins. It would be manifestly improper to say California Bob White, the Mountain Bob White, etc. Their voices would belie the name. But the name recommended by your committee last year is not liable to any of these objections. It is euphonious, it is short, easily written and easily spoken, is appropriate to all our American birds, of what has been called the quail genus. It sounds well, and is appropriate to say the Virginia colin, the California colin, the Mountain colin, the Massena colin, etc. Then again the name *Colin* has the right of priority. It was used in probably the earliest description of our bird. It is given in both Webster's and Worcester's unabridged dictionaries as the name of our bird. Also in Chamber's Encyclopedia, and in Henry Thornton Wharton's List of British Birds, which is authoritative, we find *Ortyx Virginianus*—Virginia colin; "also in Col. Montague's Ornithological Dictionary. It seems quite important that undisputed names should be adopted for all our game, so that when they are named in our laws there will be no ambiguity about the meaning of those laws. We therefore respectfully recommend the adoption of *Colin* as the vernacular or common name of *Ortyx Virginianus*.

—Marked * Ontario † Quebec ‡ Quebec and Ontario.

Correspondence.

ROBINS AGAIN.

To the Editor of THE CANADIAN SPORTSMAN AND NATURALIST:—

MR. EDITOR.—In your last issue, I was surprised at the comments of the Rev. Mr. Clementi, and am sorry to see such ignorance exhibited by him, and "Hammerless Greener." The best answer to give these gentlemen, is that I allow their letters to be their own condemnation. You justly observe that there is no specific connection between the English

Robin red-breast and the American Fieldfare, or Migratory Thrush, which last had been erroneously nick-named "robin," by the Pilgrim Fathers more for a joke than a reality. The English red-breast is not much larger than a Titmouse (*Parus atricapillus*) the former having longer legs, and it is of an olive green on the back, with a brick red breast, and its eye is black, with a beautiful soft and gentle expression, that has a charm in itself. There is no "blood color" about it. The American Fieldfare arrives in Canada as the snow melts, and at this date, 1st Oct., they are migrating south. I have read many traditions, concocted by pious frauds, but until otherwise satisfactorily demonstrated, I shall consider the miracle of "picking thorns" emanating from the brain of Mr. Clementi. The American Fieldfare is not "God's bird," and has nothing to do with it. It would indeed be the height of cruelty, or more properly inhumanity, deliberately to shoot an English robin, which, in gentle confidence, hops around the door steps alike of rich and poor. When a boy, in Europe, my father and uncle always took me and my brother in Christmas week, to shoot Blackbirds, Fieldfare, Larks and such small game, to make a large pie for New Year's day. Now, as a recollection of past days, let me say, that this pie was baked in a huge round dish, twenty inches across the bottom and eight or nine deep. At the bottom was placed a hare or pair of rabbits, then, four pheasants, and four partridges and the rest of the space filled in with small birds. With boyish pride, we recounted how many splendid shots we had made at sitting birds; that such a Blackbird was killed at 50 or 60 yards, and so on. But Fieldfares and Larks were our staple game. Then, all the young folks of the neighbouring gentry were invited for the New Year's pie, and I assure you, it was discussed as little ladies and gentlemen, of from eight to fourteen could, and we did it justice. I will never forget that on one occasion I fired at a flock of sparrows and other small birds, in the barn yard, and killed about a dozen. My uncle helped me to pick up the wounded, and found a red-breast I had unfortunately killed with the rest. He would accept no excuse for such a crime. No use pleading, I did not see it, or I would not have fired. The poor robin was killed. That was enough. I got my ears well cuffed, and was sent to the library for the rest of the day, for my careless conduct, and he ordered me to learn the first ten lines of Sallust by rote, beginning with "*Omnes Animalia*," and I had

to do it. Notwithstanding the sentimentalism of the Rev. Mr. Clementi, Mr. Saunders, President of the Entomological Society of Ontario, stated in his last annual address to that learned body, that robins were one of the most mischievous of our birds, and I assure you the piety and extreme humanity of such correspondents will not weigh with me about relishing Fieldfares. In all the leading hotels in all the large cities of the United States, "robins" are to be found on the bill of fare. Do they know that 25,000 dozens of birds, mostly Red-wing Blackbirds, Rusty Grackles and Bobolinks, were sold last year in Philadelphia alone at 75 cts. to \$1.00 per dozen, all under the name of "Rice-birds." Robins and Meadow larks were not included, though thousands were also sold. I would advise the Rev. Mr. Clementi to make a tour in the United States to lecture on the cruelty of eating robins, *God's birds*. I hope to read no more of these strictures as it might perhaps add vim to my pen. Do they think they have written me down? In regard to the tradition of the robin picking a thorn out of Christ's head, I consider Mr. Clementi the pious composer. Again if the English robin had its breast dyed by our Saviour's blood, it is surely neither an unreasonable nor irreligious idea, to expect the dyed feathers to be a blood color which they are not, and if a miracle had been performed it would have been true to the color of blood and not blotched, or, if true to color, then His blood was like no other mortals. How does the truth of this tradition tally with fact and colour? Will Mr. Clementi explain, as Robin red-breasts are neither found in the Holy land, nor is it mentioned in the Bible as far as I am yet aware?

JOHN H. GARNIER.

Lucknow, Oct. 1st, 1881.

DEER HORNS.

SIR,—I wish to ask yourself or readers of the NATURALIST the reason that on a two year old buck, one horn has grown about five inches, and the other only shows above the hair. I have a buck and doe, and this is the way his horns have grown. The doe is last Spring's fawn; large for its age. Both are very tame, eating readily from my hand. Forty Dollars will buy the pair.

Yours,

Gravenhurst, Ont. R. B. SCRIVEN.

NOTE.—We cannot positively say what is the cause preventing the growth of the second horn of your deer. It may be that the skin

covering the tips of the horn was injured when it started to grow, thus stopping the circulation of the vital fluid passing under it. The horns carry the skin from the base until they are full size, and while the thin skin is attached to the them the horns are soft and easily injured. We have seen many bearing marks of injury received while they were covered with the velvet skin.—C.

A GENERAL DELUGE.

BY G. W. BROWN, M.D.

(From Our Home, and Science Gossip.)

The gases continually escaping from the interior of the earth, bringing along with them a vast amount of scoræ, through the immense volcanic craters of an earlier period, reduced the amount of molten mass within, and unfitted it longer to sustain the heavy crust resting upon it. After rocking, heaving and swelling for a time, like a ship on a billowy sea, fissures were formed, the compressed gases escaped, the crust fell down upon the fiery mass, leaving the Andes, Rocky, Himalaya and other great mountain chains to mark the site of these magnificent operations of nature. Tranquility followed for a time when lesser disturbances ensued. These violent agitations of the crust of the earth everywhere ruptured the inflexible rock, sometimes leaving wide spaces into which were injected the molten mass from below, forming the perpendicular veins of metamorphic rock, the admiration of all who look upon it.

With the subsidence of a continent, beds of oceans were elevated, and the waters, in seeking their equilibrium, swept over receding continents, perhaps engulfing them until another great upheaval followed. Amid these awful paroxysms of a convulsed earth, the principal inhabitants were swept away. The few survivors, with no historic records, communicated from generation to generation, in their rude language, as clearly as they were capable, an account of these wonderful and startling operations of nature. Wherever survivors remained each had a vivid recollection of the grand cataclysm, and imparted his impressions of it to his successors, and thus on from parent to son through all the ages.

The present eastern coast of Asia may have been the western coast line of a submerged continent. The Adam and Eve of Hindoo, Assyrian and Hebrew story may have been the only survivors of some of these grand

operations of a convulsed globe in some locality, while Noah and his family may have been the remnants saved in another. Or each may have been survivors of widely separated occurrences to which we have referred.

A portion of the inhabitants may have been saved by boats, corroborating the traditionary account of the aborigines of America, as well as the mythical and sacred books of different nations.*

This view of the subject best explains the difference of species of animals, living representatives of which have been long extinct, their bones however, frequently found deep in the earth. By some of the swells of the ocean, during these paroxysms, a whole continent would be swept over, and thus the Bible expression, "all the fountains of the great deep were broken up," is as correct as expressive.

The American continent, with its pre-historic mounds, the products of an ancient and long extinct race, may have been swept away by some of these gigantic ocean waves, when the waters were seeking their level, though the continent itself was not permanently submerged. A few inhabitants may have escaped, who chanced to be on mountain tops. They were the progenitors of the red man, found here by our European ancestors. As the water receded to its former bed, with the return wave, and rested but a short period on the surface, the general face of the country, save as regards vegetable and animal life, was but little disturbed. If this tidal wave swept from the south-east to the north west, we can account for the treeless prairies, all verdure being destroyed, followed on the subsidence of the flood by grasses which were the readiest to take root, the seeds of the forest being less tenacious of life were destroyed with the parent tree.

It is not probable all the continents and islands were submerged, nor all upheaved at the same epoch. Were such a catastrophe to again visit our earth, which is not at all improbable, because of the molten mass still reposing in its bosom, the western coasts of the Ameri-

* NOTE:—Classical writers inform us that Deucalion reigned over a part of Thessaly. In his age, say they, some 1,500 years before our era, the whole earth was overwhelmed with a deluge. The impiety of mankind had irritated Jupiter, who resolved to destroy the race. Immediately the whole earth exhibited a boundless sea. The highest mountains were climbed by the frightened inhabitants, to escape the rising waters. This seeming security was soon overtopped by the swelling flood, and no hope was left of escaping the universal calamity. Prometheus advised his son, Deucalion, to make himself a ship, which he did, and by this means escaped with his wife the general disaster. The pigeon and olive branch play their part in this as in all other narrations of the kind, showing a universal paternity *some-where*.

can continent might be depressed below the sea level. The Pacific would soon establish an equilibrium. The large amount of water required would denude other portions. Possibly Australia, with the thousand islands of the eastern archipelago, would rise into the dignity of a continent with hills and vales, and inland seas. Dense forests of verdure, abounding with animal life would soon complete the beautiful picture, and give us the realization of a new continent, rising from the sea, like Venus in classic story.

Cosmogonists have been too much in the habit of predicating their ideas of creation on the accounts found in their "sacred books." Instead of entering the great field of inquiry, reading the rock-records "engraved by the finger of God," and making proper deductions therefrom, thinking and writing for themselves, and building up a science conformable to the teachings of Nature—which cannot misrepresent,—they have been content to borrow the narrow theory of some person who lived in the deep past, whose ideas were drawn from an uncultured fountain, and who had not sufficient data on which to establish any great scientific truth.

The human mind was no more content to remain inactive four thousand years ago than now. The people then found the earth substantially as we see it to-day, and peopled as it is with inhabitants. Reason taught them that all this had a beginning. The easiest way to explain to the ignorant masses, orally taught by the better-cultured priests, and quite as satisfactory to an uncultured population, was the story originally copied from the Babylonian records, transcripts of which were found by Layard in the ruins of Ninevah, where they had been concealed for more than 3,000 years by the sands of the desert. Our writers, conscious of the deep-rooted attachment of the populace to their sacred books, have labored to educate the common mind, by harmonizing their knowledge with prejudiced public opinion on this subject. This should not be. The time has come when the TRUTH should be taught, and if Error suffers it is not the fault of the truthful teacher, but of him who taught the original error.

Our world is older than even scientific thinkers have generally supposed. These thinkers found the earth as it is, and were ready to take for granted that its population, with man and the lower forms of life, began with the present order of things.

(TO BE CONTINUED.)

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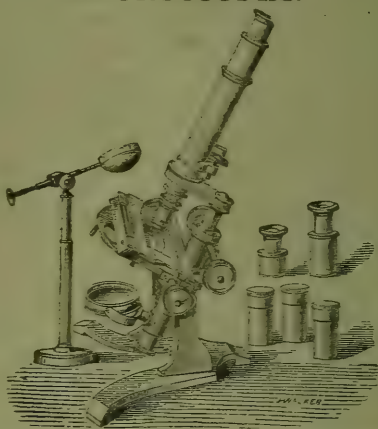
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THE
CANADIAN SPORTSMAN
AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, NOVEMBER 13, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

NO. II.

MONTREAL, NOVEMBER 15th, 1881.

VOL. I.

TO SUBSCRIBERS.

We are anxious to have our accounts squared up by the end of the year, therefore, gentlemen who have not paid for the magazine would confer a favor by remitting ONE DOLLAR to us before the 1st of December.

THE VENISON SEASON.

There must be some alteration in the time to hunt deer, and the necessity for the change is obvious from the late long continued fine weather, which, we may say, lasted throughout the months of September and October. At present the law says that all species of deer may be hunted from the 1st of September to the 1st of February, in the Province of Quebec, so that actually two months of the present legal season is of no value to the sportsman, and we may risk making no mistake in saying that for years to come but few deer will be obtained in the month of September at least, either in the accessible woodlands of Ontario or Quebec. The animals can certainly be obtained by going far back, but what can be done with venison after it is carried a great distance in such a temperature? It would be simply unfit for human food. We must, therefore, frame our Game Laws to suit the climate and rutting season, and it would be greatly to the advantage of sportsmen and the deer to commence the open season on the 1st of October, and close on the 15th of February. We throw out these remarks that gentlemen who are interested in the sport may study the subject and give us their opinions. We are not anxious to do things rashly, but it is evident that as the woodlands are annually opened, that the climate during the two months mentioned, will continue to increase in mildness, keeping the animals far back, and, therefore, not so accessible as in former seasons.—C.

EXPPOSE THEM.

A few Americans have leased the Swanton Marshes on Lake Champlain, and have called themselves "The Maldon Game Club, of Mass." We have been informed that members of this Club have lately set numbers of muskrat traps on the sand-bars in order to catch the Black duck going there to rest. The discovery was made by a party who watched the gents searching for the traps which were hidden beneath the sand washed by the waves. We are also told that members of the above Club go into the marshes with dogs to procure young ducks before they are able to fly. The sporting men of Vermont—those who love fair play to game animals—should watch these gentry and make an *expose* of a few of them. If such tricks were played in a civilized Canadian community, the guilty parties would certainly be arrested and sent to jail to convert stones into pebbles.—C.

CANADIAN MUSEUMS.

THE LAVAL UNIVERSITY, QUEBEC.

This well-known educational institution has, without doubt, better facilities for exhibiting the *fauna* and *flora* of North America than any similar one in the Dominion. The room devoted to the zoological collections is large, and well-lighted from the west side of the building, and the cases containing the Ornithological collection are erected after modern patterns, spacious, standing transversely on the floor, each case having two windows to light its contents. We may safely say that the Museum of the Laval University of Quebec, in course of time will equal that of the Academy of Natural Science of Philadelphia.

Some years ago the Council voted a sum of money to procure preserved skins of the birds of Southern and Western America, and the

Rev. Mr. Brunet, then Professor of Botany, and the writer were sent to Washington to make arrangements with the Smithsonian Institution for the purchase of such a collection. This was arranged with Dr. Baird, and a number of specimens were afterwards received, but we have no knowledge that material was regularly forwarded in accordance with the Catalogue contract. However, with what the University now possesses in this Department and its collection of Birds' Eggs, with a fair representation of the Orders of Canadian Insects, students can pass their leisure profitably in the room. In an adjoining room will be found Dr. Taché's collection of Ethnological forms, which are very interesting as exhibiting the modes of life and early history of the Indian tribes of Canada. The indefatigable exertions of the late Rev. Mr. Brunet made the Botanical collection the best in the Dominion; in fact, it is now a reference of no mean order. The arrangement of plants are in accordance with modern classification and nomenclature, and the genera and specific names properly and intelligently placed. If the present Professor will only watch over the Herbarium as our late esteemed friend Brunet did, then it will exist to be useful for generations to come. We may add that the University possesses a magnificent collection of philosophical apparatus which are not, probably, equalled on this continent. The authorities had, from the beginning, an eye to matters of this nature as an intelligent means of advancing the knowledge of young men entering their classes, and, indeed, similar institutions in this country should endeavor to imitate Laval, and procure material of like nature, in order to keep pace with this advanced age of enquiry and thought.

THE BETSIAMITES MUSEUM.

On the North-shore of the Lower St. Lawrence, almost opposite Father Point, a large, good salmon river, called Betsiamites, enters salt water. It is about ninety miles below Tadousac and two hundred from Quebec. The

Hudson Bay Co. occupy a post here, to trade with the Indians who generally reside near the river, as they claim it by right. There is also a Moravian Missionary residence, where the Gospel is propagated among the tribe. Through the influence and energy of these clergymen a Museum of Natural History objects has been erected—the collection being kept in a separate building. We wish to speak of this collection in order to show what can be performed by determined exertion. Here then, we say, that on the North Coast of the Lower St. Lawrence, in a place, to a great extent, only frequented by Indians, the devoted missionaries have erected a Museum to educate the savage. We were astonished when we visited it, as we did not expect to see such things on the verge of the Labradorian coast. But we know what these missionaries mean by this exhibition, and the result of forming a collection of Natural objects before the semi-savage eye is a grand idea, brim-full of good results. The collection is extremely good, being the product of amateurs. There are quite a number of specimens from France. We believe this is the first English notice given of the above collection.—C.

OTTAWA FIELD NATURALISTS' CLUB.

We have before us Transactions Nos. 1 and 2 of the above named Club, from 1879 to 1881. An institution of this nature was wanted in the City of Ottawa, the surroundings of which are prolific in objects of scientific research. We are cognizant of the valuable paleontological work done by the late Mr. Billings in the Ottawa Valley, and furthermore mention, with pleasure, that there are other Billings' following his footsteps. These facts should stimulate the closet naturalists connected with the Geological Survey to go to work for undiscovered material; it would certainly be creditable to the discoverers, and add laurels to the Department. It appears, however, that it is not the way in which these learned gentlemen wish to obtain honour. We believe that many

of the forms obtained from our rocks have been identified by American paleontologists. The State collections of New York and Massachusetts have to be consulted in order to place the matter correctly before the Canadian public. Of course this must be expected from persons having only a limited knowledge of abstruse forms found occasionally in our rocks. The Ottawa F. N. Club have now the Geological Survey Museum to consult, and with students like J. A. Grant, M.D., F.R.C.S., Edin., F.G.S., London; the Billings'; W. P. Anderson, C.E.; W. H. Harrington, and others working in the fossil valley of the Ottawa, will, we trust, add a fresh stimulus to geological study, and compel the salaried gentlemen who write on these *remarkable* things to be diligent and thoroughly accurate regarding them. The Transactions of the O. F. N. C. are extremely valuable, and they will, doubtless, continue to be so as long as the Club is presided over by a student like our congenial friend J. Fletcher. Mr. G. E. Heron, a young conchologist, gives a very good paper and list of the Land and Fresh-water shells of the Ottawa. Mr. W. H. Harrington's papers on Insects are valuable to the young beginner. We would like to see the authorities given in all cases after species. At page 44, No. 1, occurs *Polydrosus elegans* of Couper, which is correct according to LeConte's Catalogue; and at page 33, No. 2, the latter Weevil is called *Scythropus elegans*, Couper, from Crotch's Catalogue or Check-list. We care not who authorized the revision, but simply say that the genus *Polydrosus* should hold priority. At page 31, No. 2, a Weevil is mentioned as *Hylobius stupidus*, and on referring to the list (page 33) it is given as Schöener's species. We have no knowledge of this insect, and never met it under the name of *stupidus* in Canadian collections. There has only been two or three species of the genus *Hylobius* found in Canada, the last one was described some years ago as *H. pinicola*, Couper. It was prior to that a M.S. species called *heros* by LeConte, a gentleman who

stands at the head of all American Coleopterists. We are sorry to say that there are too many writers in the United States, who are fond of making changes of this description, and if Crotch gives this *Hylobius as stupidus*, Sch., we would like to examine a specimen. It is strange that the latter species should lie dormant so long when men like Billings and the writer collected together for three years around Ottawa. Ibbotson, Croft and the writer for several years around Toronto, and that *H. pinicola* was discovered in two distant places, i.e., Lake Superior, where Dr. LeConte found fragments of one which formed the MS. for his *heros*, and the others were living specimens taken on pine trees at Quebec by the writer, and described by him in the *Canadian Naturalist & Geologist*, published at Montreal, either in 1865 or '66. We are pleased to notice Mr. Fletcher's "Flora Ottawaensis" in the first number, with an addition to it in the second. We know that the late Mr. Billings published a local list of plants in the Transactions of the Literary and Scientific Society of Ottawa. In closing, we will here notice a descriptive paper on the genus *LILUM*, by our old friend Lt.-Col. White, an associate, who is always willing to aid literary institutions. In all, we commend the Transactions of the O. F. N. C. to all those who take an interest in the Natural History of Canada.—C.

Correspondence.

"LEGEND OF THE CROSSBILL."

To the Editor of THE CANADIAN SPORTSMAN AND NATURALIST:—

SIR,—I notice considerable correspondence appearing in your columns on the Robin. I am a student of ornithology, therefore, I would like to say a few words on the subject. I consider Dr. Garnier is justified in shooting *Turdus migratorius* in the autumn and winter seasons, as, during that time, they are very good eating. I have enjoyed the winter sport, shooting Blackbirds, Thrushes, Larks, Redwings and Fieldfares in England, and can vouch for the good pie they make. The Rev. Mr. Clementi

is evidently astray in regard to the tradition of the Robin picking a thorn out of Christ's head. Perhaps he confounds the Robin with the "Legend of the Crossbill," from the German of Julius Mosen, translated by Longfellow, as follows:—

On the cross the dying Saviour,
Heavenward lifts His eyelids calm,
Feels, but scarcely feels, a trembling
In His pierced and bleeding palm.

And, by all the world forsaken,
Sees He how with zealous care,
At the ruthless nail of iron,
A little bird is striving there.

Stained with blood and never tiring,
With its beak it doth not cease,
From the cross 'twould free the Saviour,
Its Creator's Son release.

And the Saviour speaks in mildness :
"Blest be thou of all the good !
Bear, as token of this moment,
Marks of blood and holyrood !"

And that bird is called the "Crossbill,"
Covered all with blood so clear ;
In the groves of pine it singeth
Songs, like legends, strange to hear.

Scientific examination condemns *Turdus migratorius*, or Robin, for destroying a much larger number of useful than destructive insects, therefore, it does more harm than good to mankind.—TEAL.

Montreal, Oct. 24, 1881.

CANADIAN BIRDS.

List of Birds obtained and observed by Professor Macoun at and near the City of Belleville, County of Hastings, Ontario, in the Spring of A.D. 1881, with remarks by Professor J. T. Bell, of Albert University.

The date given with each species is that on which the first specimen was captured. Several individuals of many of the species were subsequently shot, of which no mention is made in this list. The names are taken from "Jordan's Manual of the Vertebrates of the Northern United States," Jansen, McClurg & Co., Chicago, 1880.

- 1.—Jan'y 17.—*Plectrophanes nivalis*; Snow Bunting. Very numerous before snow storms.
- 2.— " 18.—*Picus pubescens*; Downy Woodpecker.
- 3.— " 29.—*Scops asio*; Screech Owl.
- 4.—Feb'y 7.—*Agelaius linaria*; Red-poll Linnet.
- 5.— " 7.—*Pinicola enucleator*; Pine Grosbeak.
- 6.— " 11.—*Picus villosus*; Hairy Woodpecker.
- 7.— " 11.—*Cyanura cristata*; Blue Jay.
- 8.— " 23.—*Loxia curvirostra*; Red Cross-bill. Prof. Macoun saw a flock of these birds, but did not succeed in procuring specimens.
- 9.— " 23.—*Eremophila alpestris*; Shore Lark. Bred near city; young nearly fledged by May 1st.

- 10.—Mar. 1.—*Nyctale Acadia*; Saw-whet Owl.
- 11.— " 4.—*Corvus Americanus*; Common Crow arrived.
- 12.— " 18.—*Turdus migratorius*; Robin. In March and April the stomach of Robins contain numerous larva of the carnivorous ground beetles (*HARPALES, CARABIDÆ*).
- 13.— " 25.—*Sialia stalis*; Blue-bird.
- 14.— " 28.—*Lanius borealis*; (*Collyrio Vigors*) Great Northern Shrike. Prof. Jordan has restored the old Linnæan name *Lanius* in his later edition. The bird now winters here, and feeds chiefly on the English Sparrow; this indicates that the migration of birds, and probably of other animals, is influenced more by food than by temperature.
- 15.— " 29.—*Melospiza melodia*; Song Sparrow.
- 16.— " 29.—*Anorthura togodytes*; Winter Wren.
- 17.—April 15.—*Quiscalus purpureus*; Crow Blackbird.
- 18.— " 15.—*Passer domesticus*; English Sparrow. Is spreading into the country; was observed building in a Lombardy poplar remote from the city.
- 19.— " 15.—*Poæetes gramineus*; Bay-winged Bunting, Grass-bird.
- 20.— " 16.—*Accipiter Cooperi*; Chicken Hawk.
- 21.— " 16.—*Molothrus ater*; Cow Bunting.
- 22.— " 16.—*Agelaius phœniceus*; Red-winged Blackbird.
- 23.— " 18.—*Sayornis fuscus*; Phœbe Bird.
- 24.— " 18.—*Funco hyemalis*; Snow-bird.
- 25.— " 18.—*Sitta Carolinensis*; White-bellied Nuthatch.
- 26.— " 18.—*Parus atricapillus*; Black-capped Chickadee.
- 27.— " 20.—*Hylocichla Pallasi*; Hermit Thrush.
- 28.— " 20.—*Sphyrapicus varius*; Yellow-bellied Woodpecker.
- 29.— " 20.—*Passerella iliaca*; Fox Sparrow. Very rare here.
- 30.— " 21.—*Colaptes auratus*; Golden-winged Woodpecker. Local name, "High-holder."
- 31.— " 22.—*Regulus satrapa*; Golden-crowned Kinglet.
- 32.— " 22.—*Agialitis vociferus*; Kill-deer Plover.
- 33.— " 22.—*Tachycineta bicolor*; White-bellied Swallow.
- 34.— " 23.—*Regulus calendula*; Ruby-crowned Kinglet.
- 35.— " 23.—*Certhia familiaris*; Brown Creeper.
- 36.— " 23.—*Sturnella magna*; Meadow Lark.
- 37.— " 25.—*Spizella monticola*; Tree Sparrow.
- 38.— " 25.—*Spizella socialis*; Chipping Sparrow.
- 39.— " 26.—*Spizella pusilla*; Field Sparrow.
- 40.— " 26.—*Zonotrichia albicollis*; White-throated Sparrow.
- 41.— " 27.—*Passerculus Savanna*; Savanna Sparrow.
- 42.— " 28.—*Cardinalis purpureus*; Purple Finch.
- 43.— " 29.—*Mniotilta varia*; Black-and-white Creeper.
- 44.—May 2.—*Harporhynchus rufus*; Brown Thrush.
- 45.— " 3.—*Pipilo erythrophthalmus*; Towhee Bunting.
- 46.— " 4.—*Empidonax Acadicus*; Small green-crested Fly-catcher.
- 47.— " 5.—*Myiarchus crinitus*; Great-crested Fly-catcher.
- 48.— " 5.—*Setophaga ruticilla*; American Redstart.
- 49.— " 6.—*Lanius ludovicianus*; Loggerhead Shrike.
- 50.— " 6.—*Galeoscoptes Carolinensis*; Cat-bird.
- 51.— " 6.—*Sitta Canadensis*; Red-bellied Nuthatch.
- 52.— " 6.—*Sturnus nevius*; Water Thrush.
- 53.— " 6.—*Ampelis cedrorum*; Cedar-bird.
- 54.— " 7.—*Tyrannus Carolinensis*; King-bird.
- 55.— " 9.—*Dendroica aestiva*; Golden Warbler.
- 56.— " 9.—*Dendroica coronata*; Yellow-rumped Warbler.
- 57.— " 9.—*Zonotrichia leucophrys*; White-crowned Sparrow.
- 58.— " 9.—*Chrysomitris tristis*; Yellow-bird.

- 59.—May 9.—*Hirundo horreorum*; Barn Swallow.
60.—" 9.—*Icterus Baltimore*; Baltimore Oriole.
(Local, Bee-bird.)
61.—" 9.—*Tringoides macularis*; Spotted Sand-
piper.
62.—" 10.—*Vireosylva gilva*; Warbling Vireo.
63.—" 10.—*Dendroica cerulea*; Black-throated
Blue Warbler.
64.—" 10.—*Hylocichla fuscescens*; Tawny Thrush.
65.—" 12.—*Geothlypis trichas*; Maryland Yellow-
throat.
66.—" 12.—*Troglodytes aedon*; House Wren.
67.—" 13.—*Sturnus auricapillus*; Golden-crowned
Thrush.
68.—" 13.—*Empidonax Trailii*; Trail's Fly-catcher.
69.—" 13.—*Coccyzus erythrophthalmus*; Black-billed
Cuckoo.
70.—" 13.—*Melanerpes erythrocephalus*; Red-headed
Woodpecker.
71.—" 13.—*Myiodytes Canadensis*; Canada Fly-
catching Warbler.
72.—" 16.—*Dendroica maculosa*; Black-and-yellow
Warbler.
73.—" 17.—*Dendroica Pennsylvanica*; Chestnut-sided
Warbler.
74.—" 17.—*Pyrranga rubra*; Scarlet Tanager. (Local,
Fire-bird.)
75.—" 17.—*Goniaphea ludoviciana*; Rose-breasted
Grosbeak.

At this date Professor Macoun was called away to other duties and ceased collecting in the vicinity of Belleville. Shortly afterwards he set out on another exploring expedition to the North-West, returning home on October 14th, when he commenced his Fall collecting, the result of which, as well as of his Northern explorations, will be made known hereafter.

Professor Macoun retains mounted specimens of all the above named birds, except the Crow and Crossbill; but in future he intends to adopt the plan suggested to him by His Excellency the Governor-General, viz., to have the skins of his captures simply filled, without wiring or setting up, so that they can be kept in boxes or in drawers of a cabinet, thus economizing both time, space and money, with the additional advantage of having them in a more accessible form for examination and comparison.

NOTE.—The Red Crossbill is, the *Curvirostra Americana* of Wilson. The genus *LOXTA* is not applied to our Crossbills by the best American ornithological authors. Jordan's Manual is, evidently, a mixture of European and American genera. It would be safer and more correct if our correspondent followed the Smithsonian Ornithological Catalogue. Jordan places our Pine Grosbeak under the European list, while it was originally described by Cabanis as *Canadensis*, its habitat being more North American than British. Again the Shore Lark or Sky Lark of America is called

alpestris, from the European list, while our bird is the *E. cornuta*, Boie. This species has been found nesting on the Island of Montreal. With regard to the Great Northern Shrike, it is, at this age, absurd to go back to the Linnean nomenclature, especially for genera. We have not seen Professor Jordan's Manual, but suffice to say that Dr. Baird, of the Smithsonian Institution, years ago classified the four North American Shrikes under the genus *COLLYRIO*. The faunal and floral nomenclature of the above Institution is, therefore, supposed to be that in use throughout the United States and Canada. Pallas' Thrush is a true *TURNUS*, and the White-bellied Swallow a *HIRUNDO*. Wilson's Thrush is placed under a genus not recognizable on this continent. Indeed, we are sorry that our correspondent did not append the authorities for such species. The latter is a true *TURNUS*. The Rose-breasted Grosbeak is not a *GONIAPHEA*, but a fair type of the genus *GURACA*, of Swainson. There are other errors which could be pointed out to Professor Jordan, but we trust our esteemed Belleville friend will look on the above remarks as emanating from a love of system which should certainly be carried out.

We know further that American entomological writers catalogued insects occurring between Mexico and the Arctic zone, placing therein, at intervals, forms either British or foreign, that never occurred on this continent.

We may here state, in connection with the early appearance of the Snowy Owl, that Mr. N. A. Comeau, of Godbout, Lower St. Lawrence, shot a fine specimen of the latter on the 12th October, and he says "it is somewhat early comparatively." About this date several specimens were offered on the Montreal market. What causes this bird, so well clothed in soft, immaculate down—and so thoroughly lagoped—perfectly formed for Arctic regions, to appear in our temperate climate during the fall of the year? It is not cold that moves it from its summer haunts, because it can stand the lowest Arctic temperature. The Snowy

Owl must live, and its food being principally *Rodentia*, which are, in the Northern regions, thoroughly covered with snow in October, cannot be obtained by the birds, and they are, therefore, compelled to fly southward, where they can obtain an existence with greater facility. We have many beautiful illustrations of this nature in America, where animals move within frigid and temperate zones. We find birds visiting us in winter, which during summer have their habitat on the South margin of the Arctic circle. Among these we may mention the Jer Falcon (*F. Candicans*, Gmelin); the Great Gray Owl (*S. Cinereum*, Audubon); the Sparrow Owl, (*Nyctale Richardsonii*, Bon); the Snowy Owl (*Nyctea nivea*, Gray); the Hawk Owl (*S. ulula*, Bon); the Three-toed Woodpeckers; the Waxwing (*Amphispiza garrulus*, Linn); the Hudsonian Titmouse (*Parus Hudsonius*, Forster); the CURVIROSTÆ (Crossbills) and AEGIOTHIDÆ (Redpolls); the Snow Bunting *Plectrophanes nivalis*, Meyer); the Pine Grosbeak (*Pinicola Canadensis*, Cab); the Canada Jay (*Perisoreus Canadensis*, Bon); the Sharp-tailed Grouse (*Pediceetes phasianellus*, Baird); the Ptarmigan and some of the ANATIDÆ (Ducks) and STERCORARIIDÆ (Skuas). The writer came to Canada in 1842, and has, since then, watched the gradual changes occurring in its winter temperature. There is an appreciative difference between the Canadian winter of 1843 and those that have followed. Remarks on the meteorological changes are not required from weather prophets, as they have been noticed by Europeans visiting Canada of late years, and as our Northern woodlands are annually opened up and the lands thoroughly cultivated, the result will be doubly manifest to the young communities of this portion of the earth.—C.

CAN THE CAPERCAILZIE AND BLACK COCK BE ACCLIMATIZED IN CANADA?

The following was sent to us by our esteemed friend J. M. LeMoine. He says that Col. Rhodes lately imported two hundred Messina

quail. It would be worth the money and trouble to introduce the Capercailzie into Canadian forests, but we have doubts regarding the Black Cock, its habits being different from the Capercailzie; however the subject is interesting, and we trust our rich sportsmen will not overlook it.—C.

To J. M. LEMOINE, Esq., President Literary and Historical Society, Quebec.

DEAR SIR,—As President of a Society owning an extensive collection of birds as well as on account of the efforts you have made to increase and protect the game of Canada and to popularize the study of Natural History, I beg to draw your attention to the splendid specimen of the English pheasant, black cock and capercailzie, which I now send to your rooms for exhibition. You are no doubt aware that the capercailzie is a northern species, a denizen of Norway, living on the top of pines and spruce as lofty as our own; you are no doubt also cognizant of this fact that the *Duke of Sutherland* and the Earl of *Fyfe* have succeeded in adding to the Scotch fauna, the magnificent birds, which are now re-introduced and breed abundantly in Scotland. Will no sportsman take the lead in a movement to introduce this bird and naturalize him in Canada? Awaiting for an expression of your views,

I remain, dear Sir,

Yours respectfully,

A. WATTERS.

Quebec, 4th November, 1881.

ROOMS OF THE LITERARY AND HISTORICAL SOCIETY.

Quebec, 4th November, 1881.

To MR. A. WATTERS, Quebec:—

DEAR SIR,—I have pleasure in acknowledging the receipt of your letter of this date, advising me that you have sent on exhibition to our rooms, some remarkable handsome English pheasants—black cock and capercailzie, as specimens of the art of Scotch taxidermists, and asking my opinion as to the practicability of adding to our fauna, the splendid game bird, known as the capercailzie. It is now some time since I pressed this very subject on the attention of some of my sporting friends. The efforts of Col. Rhodes to introduce here the European house sparrow, show what energy and hard cash can do, and I trust the same success will attend the Colonel's praiseworthy

efforts and expenditure, to add the Messina quail to our Canadian moors and forests. I have a dozen of the Colonel's Sicilian quail, at present in my aviary, the breeding season being over when I got them, and am waiting for April to let them loose, in order to test Col. Rhodes' theory about this migratory species' return to where it was hatched. The capercaillie, without being as delicate a bird to eat, as our ruffled grouse, from its size, would be a very welcome addition to our fauna. In Canada, he would find a climate, haunts, food and protection, similar to which he meets with in the pine forests of the north—in Norway—it is worth while trying, if he can be naturalized here. I hope yet to learn that some public-spirited sportsman will undertake the introduction of this noble bird—the capercaillie—and succeed here, as has happened in Scotland.

I remain, dear Sir,

Yours most obediently,

J. M. LEMOINE,

President Lit. & His. Society.

BAY OF QUINTE NOTES.

Owing to the unprecedented dryness of the weather in September the shooting season in this district opened under very unfavorable auspices. The Woodcock was driven out of his usual haunts, and compelled to take refuge in the inaccessible recesses of our marshes, and though some of our sportsmen tried the well-known covers, they met with but poor success, the best bag I have heard of consisting of no more than six birds. Some sport has been had within and close to the city limits among the Golden Plover, but no heavy bags have been made. Very few Partridge have been shot as yet, the foliage is too dense for the shooter; after the leaves have fallen we hope to have some sport, as the breeding season was favorable.

The Fall ducks are beginning to arrive; the frosty nights of the 5th and 11th October have started them on their Southward journey, and they have begun to appear on our market, to the great satisfaction of the gourmands. Hay-bay, an offshoot of the Bay of Quinte, about midway between Belleville and Kingston, used to be a celebrated resort for duck-shooters, but of late years the birds have been almost entirely driven away by incessant and indiscriminate cannonading. It is now, however, under the protection of an association of neighboring sportsmen, who only allow shooting on three days in the week, and who, I am

informed, charge one dollar a-day for the privilege—a sum which no true sportsman would object to pay for a fair day's sport.

The fishing in the Bay, though inferior to that of last year, has yet afforded some good "takes" to the devotees of the rod and line. Among others, Mr. Wm. Orwin has had good sport among the Black Bass. On one occasion he and his son killed 95lbs. of Bass in an afternoon. On another they took 75 fish, weighing considerably over 100 lbs., and on the 11th October they took, at Nigger Island, half way between this and Trenton, 103 lbs. of Black Bass. His usual bait is a grasshopper, but as the insect is rarely to be had now, his latter fishing has been done with an artificial fly, tied to resemble that tempting bait. Mr. Orwin reported some heavy flocks of duck coming in while he was fishing.

A well-known veteran angler, Mr. Alpheus Dulmage, paid a visit to Squire's Creek, in the Township of Rawdon, 25 miles from Belleville, on the 12th September, and in eight hours, took 70 Speckled Trout, one of which weighed close upon 2½ lbs., and another turned the scale at 1½ lbs. These fish were mostly killed with the worm, but, fishing by moonlight, the trout refused the worm bait, which was freely taken by the Chub, which also inhabit the creek. By way of experiment Mr. Dulmage cut up a Chub and baited his hook with pieces of its flesh, and with this bait caught several nice trout.

The bush-fires which devastated a large section of the middle district of Hastings County during the hot, dry weather of summer, made sad havoc among the game and wild animals within their sway. The lumberers report the finding of many remains of Deer, Partridges, and other animals in the burnt woods. In the Township of Grimsthorpe, a fire swept through six miles of forest in twenty-four hours. One of Messrs. Rathbun's foremen, following the track of the conflagration to look for such timber trees as were spared, found a Porcupine with all its legs burnt off and still living, and, a little further on, another with its head and shoulders singed bare, and its eyes put out by the flames; he put them out of pain with his hatchet.

The fires of this year, having run through many of the thick swamps which, in ordinary seasons, are incombustible on account of their moist condition, have driven many Bears, Wolves, &c., out of their strongholds, and they have, consequently made their appearance in

very unusual places, and alarmed the inhabitants of isolated dwellings. Several of them have, however, fallen before the rifles of the hunters, who are always ready to turn out in pursuit when large game are reported to show themselves. The regular hunting is scarcely begun as yet, but those who have taken "time by the forelock" have had pretty good success, in proof of which I send you the following, clipped from the *Belleville Intelligencer*, of the 12th ult. :—

"A BIG DEER HUNT.—A party of seven left for Buck Lake, Sept. 28th, arriving at their destination October 1st. They returned on October 10th, bringing with them 15 deer besides a large quantity of smaller game. Of the deer shot Mr. S. Paliser, of Foxboro', shot seven; Mr. S. Golding, of Sidney, six; and Mr. S. D. Ross, of Madoc, two."

JAS. T. BELL.

NOTE—The above was too late for the October number.

A GENERAL DELUGE.

The following foot note was omitted in the October number. It refers to an asterisk after the word desert, fifteen lines from the end of the column :—

*NOTE.—The late lamented Geo. Smith, of the British Museum, in his interesting account of the Deluge, which he deciphered after long years of laborious research, wrote the *London Telegraph*: "The cuneiform inscription which I have recently found and translated, gives a long and full account of the Deluge. It contains the version of tradition of this event, which existed in the early Chaldean period of the city of Erech, one of the cities of Nimrod, now represented by the ruins of Warka. In this newly discovered inscription the account of the Deluge is put as a narrative into the mouth of Xisuthrus or Noah. He relates the wickedness of the world, the command to build the ark, its building, the filling of it, the resting of the ark on a mountain, the sending out of the birds, and other matters. *The narrative has a closer resemblance to the account transmitted by the Greeks from Berosus, the Chaldean historian, then to Biblical history, but it does not differ materially from either [because all drew from a common fountain—the original Babylonian records, from which each copied.] The principal differences are as to the duration of the Deluge, the name of the mountain on which the ark rested, the sending of the birds, etc. The cuneiform account is much longer and fuller than that of Berosus, and has several details omitted both by the Bible and the Chaldean historian. This inscription opens up many questions of which we knew nothing previously, and it is connected with a number of other details of Chaldean history, which will be both interesting and important. This is the first time any inscription has been found with an account of the event mentioned in Genesis."*

Some, bolder than others, have had the independence to assert that the various races of men did not originate from a single pair; but were developed at different periods, under widely

differing circumstances, and that each was peculiarly adapted to the locality in which he is found. They saw that the islands and widely-separated continents were inhabited by similar animals and races of human beings, and accounted for this on the hypothesis that their ancestors were carried there by icebergs, or other natural methods, and to man his accidental passage by canoes. Our theory, which seems the more probable, accounts for this condition of things in harmony with the known laws of nature.

Had the earthquake of a few years ago, which created such terrible havoc to property and life on the coast of Chili, floating large ships many miles inland and leaving them high up on the mountain sides, been universal to the western continent, with a tidal wave as much greater as the convulsion would have been more general, it would have rolled over the mountain barriers, and produced a general deluge. All life save that on mountain tops, must have perished. Arks would have been of no account amid such wild and tumultuous warring of the angry elements. A moment, and down sinks the peaceful earth, and on comes the maddened, rushing waters. Billow follows billow mountain high and rolls on, spreading over the plain and leaping the highest crags. Ships would have been no more than straws floating on a surging ocean.

If a receding wave should unveil a continent, it would be a barren waste of crags, and rocks and boulders, pebbles and sand. The few, if any, who clung to mountain tops would probably starve. If any survived, ages of almost limitless duration would have been required to people the earth again.

A general traditionary account of the common disaster would have survived; but no clear idea of the long period which had elapsed could have been preserved. The knowledge of the event, being passed from father to son through successive generations, would be credited to a period much shorter than its reality.

Though raised at the court of Pharaoh, Moses only possessed the knowledge common to the educated Egyptians. All the laws and customs introduced by him to his immediate followers, he carried out of Egypt with him. And the Egyptians no doubt borrowed their ideas from their ancestors, who were probably natives of Persia or Farther India.

(To be continued.)

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THE
CANADIAN SPORTSMAN
AND
Naturalist:

A MONTHLY JOURNAL.



MONTREAL, DECEMBER 15, 1881.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 12.

MONTREAL, DECEMBER 15th, 1881.

VOL. I.

TO OUR PATRONS.

This number ends the first year of THE CANADIAN SPORTSMAN AND NATURALIST."

Last January we were sanguine, anticipating an increase of pages on the appearance of the second volume. To make it double its present size necessarily incurs a larger outlay of hard cash, which, we think, is not fully warranted at this instant. We, therefore, prefer to keep the magazine in its original form, adding, however, a beautiful illustrated title-page, which will appear with the first number of the new year. We are therefore guarded, as our prospects are thus far encouraging, many of our subscribers preferring to continue it at its current price rather than risk failure by adding a few additional pages and increasing the annual subscription. We intend to go on as formerly, keeping within the original groove on which we started, i.e., advocating pure Sport and Natural History; allowing nothing to appear in our columns which will in the least disturb the most fastidious. Correspondence will be thoroughly sifted and made as brief as the subject matter will allow, and we trust that by energy and attention to improve as we become older.

We must here return our thanks to Professor James T. Bell, of Albert University, Belleville, Ont., and to James M. LeMoine, Esq., Quebec, and many others for their kind efforts in bringing the magazine before the notice of their friends, and advancing our interests. Cannot we obtain a similar influence and support from

gentlemen who reside near the many sporting localities in the Dominion? We are impressed that this will occur, and ere the year 1882 passes away many new names will be added to the list, which is already large considering that we are only in our infancy.

As the above remarks will probably appear before our readers on the eve of the annual festive season, and, it being customary to greet friends on such occasions, we sincerely wish all "A MERRY CHRISTMAS AND A HAPPY NEW YEAR."
C.

TO SUBSCRIBERS.

Gentlemen who are indebted to us for this year's issue, would confer a favour by sending the amount on receipt of this number.

OUR SECOND VOLUME.

We will send the second volume to all gentlemen who subscribed last year, trusting that they will continue to take the publication. Those who do not wish to do so, will favour us by returning the number to 806 Craig street, Montreal.

CHANGING GENERIC NAMES.

It would be in order when the American Science Association meet next year in Montreal, that one of the members of the Zoological Section takes up the important subject regarding the useless alterations in names occurring from year to year in the Department of Zoology and Botany. It appears to us that there is a School of Naturalists in the United States who persevere in diffusing a system of confusion in the nomenclature of Natural Science. We are extremely sorry to see our talented friend Scudder, of Boston, persistently sticking to old Hubner's generic names for the butterflies

of North America, when he is aware that there is not a man outside of his peculiar school who agrees with him. Not satisfied with altering the genera of LEPIDOPTERA, to suit his fancy, he now issues a book wherein the greater portion of our butterflies are introduced under newly invented common names. *The Canadian Entomologist* says: "It were far better, in our opinion (with few exceptions), to use the specific name of the insect for this purpose, which is as easily learnt and conveys a more definite idea than is possible with such common names as those given by this author." W. H. Edwards, author of "The Butterflies of North America," says: "Throughout this book *Archippus* is ostentatiously called THE MONARCH, I apprehend in right of its amazing history. If it lives as long for a butterfly as Methusaleh lived among men, it may be entitled to some sort of distinctive appellation, and if it has so changed the habits of its kind as to breed like a mammal, laying eggs at intervals in the closing half of its long life and gathering its progeny about its tibiae, perhaps it ought to have some superlative title. We read that Methusaleh lived, after he begat Lamech, seven hundred and eighty-two years, and begat sons and daughters, but his long life appears to have been that venerable man's claim to distinction. We do not read that he attained regal honours, or even the chieftainship of a tribe. In view, therefore, of this high precedent, I suggest that the correct thing would have been to designate this long-lived phenomenal butterfly not THE MONARCH, but 'THE PATRIARCH.'"

Then, again, there are compilers of Entomological Catalogues, who, without giving any distinct reason for so doing, take upon themselves to alter well-established genera for seemingly no other purpose than the honour of having their names attached. So much for the piratical way in which these alterations are made, and in order to show how some of them are accomplished, we will instance one or two cases:—

Mr. S. H. Scudder, in his researches, discovered that our common butterfly, the Camberwell Beauty, everywhere known to entomologists as *Vanessa antiopa*, Linn., should not be placed under the genus VANESSA. By a resurrection of old documents he has managed in a miserable way to transfer this butterfly from the latter genus to that of PAPILIO, calling it *Papilio antiopa*, Scudder. This is one of the many innovations which this author places before the Entomologists of America. The same attempt has been made in regard to the COLEOPTERA (Beetles) of this country, and unless the subject is strictly dealt with by the Entomological Section of the Association, the nomenclature of North American insects will be such that ten generations of students will pass away before it is properly understood.

In Botany also, attempts have been made in a similar manner. Suffice to say that a botanist discovered a new species of California *Convolvulus* which he described and felt satisfied that it was placed under the correct genus. It did not belong to the climbing, but to the creeping genera. Some time ago the describer of the plant was horrified to find his species re-described under another genus with the name *Gray* appended to it. Now, we do not wish to see any more of this mode of obtaining material, but possibly Mr. Gray, who is a celebrated botanist, may account for his name being there. Mistakes of this nature will sometimes occur, and one of them was made by the Rev. Mr. Provancher, of Cap Rouge, Q., who attached, in his work on Canadian Coleoptera, the name of Fabricius to a species discovered and described by the writer of this article. We claim that when any one describes a new animal, mineral or plant, that the species (if properly and morally named) is legitimately his to the end of time, and he who takes the name from him to place his own to it robs another man of his intelligence and labour, discouraging and deterring him from going on with his work of doing good to mankind.

Something ought to be done to prevent men, even well-informed authors, from tampering with other peoples' property on subjects to which they have no just claim. It is different when a scientist devotes a life's study to a well-defined class containing numerous genera and forms. He certainly has the privilege of transferring his own species from one group or genera to another, as he finds the analogous forms agreeing. To go back to Hubner's time, and adopt his nomenclature in this advanced century of human knowledge is not what we expected from Mr. Scudder's pen. The idea is absurd and will be far from acting in harmony with the nomenclature of insects as understood at the present day. We do not want even to go back to Fabricius for priority in matters of this kind, but the latter is preferable to Hubner. His generic names are ridiculous and unpronounceable, and the change is not necessary.

In Ornithology, we notice that the same generic name changes are yearly taking place, both in Europe and America. We are sorry for this, as it was thought that in America the generic names emanating from the Smithsonian Institution established at Washington for the diffusion of knowledge among mankind, were sufficient, perfect and authentic. We can point out many instances where a few busy bodies (and can name them) have been breaking up the standard generic names of our birds. For instance the Sparrow Owl (*Nyctale Richardsonii*, Bonaparte,) called in England, (*Strix Tengmalmi*, Bewick.) and in Ireland, Mr. Percy Evans Freke calls the same bird (*Nyctala Tengmalmi*, var. *Richardsonii*, Gmelin.) Here we see three generic applications given to the same species, and after all it is nothing more than the same bird, like many other forms of American avi-fauna occurring on both continents. In *The New Newcastle Weekly Chronicle* of November 5, 1881, Mr. H. Kerr; of Bacup, Lancashire, says that the above owl was named by Gmelin as a compliment to the original discoverer Dr.

Tengmalm, an eminent Scandinavian Ornithologist, while we see as above that it is named by Bonaparte as a compliment to Dr. Richardson. It is therefore clear that Gmelin's name for this owl must stand as it holds priority; the American and high latitude forms being permanent, and the European are merely a geographical variety. But why not adopt one of the three names for this genus which is well-represented in America? No proper nomenclature can be accomplished until this is understood, and the sooner it is done the better.

C.

NOVA SCOTIA GAME LAWS.

LORD DUNRAVEN'S CASE.

Of all countries in this world, the Dominion of Canada is the most famous for complex Game Laws. The Provinces of Ontario, Quebec, New Brunswick and Nova Scotia have game laws, not one of which harmonizes with the other more especially regarding quadrupeds named in the Act. Considering that the geographical range of deer is almost similar in these Provinces, it seems ridiculous that the law affecting them should be different within their places of occurrence. Again, it is understood that any person inclined to hunt deer during the open season has a perfect right to do so without let or hindrance. This, however, it appears is not the case in Nova Scotia, where we notice that Lord Dunraven was fined for shooting deer, commonly called Moose, although he had a license to hunt the latter animal in the district in which he procured the authority so do so. In a letter which his Lordship published in *Forest and Stream*, he says:—

"A man might pursue a moose and wound it in one district and be compelled to follow it into another to kill it. The proper course, I presume, for him to adopt on arriving at the county line would be to go back to camp, pack up his traps, and go out to the settlements, which might take a couple of days or so. He should then proceed to the residence of the Clerk of the Peace, which would take a day, and having got his endorsement on the license,

should return to look for the moose, which would occupy several days more. But by this time the moose would be dead, and the meat spoiled, and for allowing it to spoil the hunter would be liable to a heavy fine. It appears, moreover, that under this Act, if a game warden, who would get half the fine, chose to take action in such a case, the magistrate would have no option. I leave it to you, sir, to judge whether the game laws are remarkable for the extreme simplicity claimed for them."

From this statement it appears that it is necessary when a gentleman obtains a license to hunt deer in Nova Scotia, that to secure thorough sport, the document should be signed by a resident Clerk of the Peace in each county or district in the Province. It is also evident that the object of making a law of this nature is to prevent any hunting of deer in Nova Scotia. But we ask why issue a license if this is the way its game laws are to be interpreted? Lord Dunraven states that the Nova Scotian Game Laws have been altered since he last hunted in the Province, but if the license was actually obtained this season, it occurs to us that the party granting the same should at least have had the courtesy to inform his Lordship whatever changes occurred since his previous hunting in that Province. If the Game Law makers in the other Provinces persist in this license business the result will be to prevent European sportsmen from visiting Canada, which will be a great loss and disadvantage to the country.—C.

QUERIES.

Can any of our readers give us information regarding the nesting habits of the Logcock or Black Woodpecker (*Hylotomus piliatus*, Baird). It occurs occasionally in the woodlands north of Montreal, generally in November and December. We want to obtain a record of this bird's history during May and June.

We wish to receive some accurate account of the gigantic moth (*Erebus odora*, Linn.) which has been found on several occasions in Canada. One was found at Collingwood, one

at Ottawa, one at Montreal, but only a single instance at a time. Did any one find the larva in Canada? Where do they come from? We know that there are theories in regard to its occurrence so far North, but very little has been written regarding this curious insect.

CANADIAN MUSEUMS.

TORONTO UNIVERSITY.

The idea of publishing brief descriptions of Canadian Museums emanated from the Editor of this journal, not with the intention of giving either a minute or accurate account of them, but merely to indicate where they are located and to show that they produce a moral and intellectual force in enlightening the young people, especially those who attend lectures on Natural Science. That Museums and well selected libraries have already produced good effects in Canada, cannot be denied. Why is it that ignorant parents are always anxious to have their children educated and brought up to acquire a knowledge of human progress? Cognizant of their own condition from experience, they are simply aware that education, be it ever so meagre, is necessary for both sexes, in order to follow any occupation now-a-days. Therefore we are anxious to see Canadian educational institutions well and punctually supported by Government and those who are in positions to aid them. We hope the day is not distant when our Universities and Colleges will receive such outside support as to enable the sons and daughters of every humble citizen to enter and be educated.

The collections now in the Toronto University Museum were commenced about the year 1849, and in 1852, the late Wm. Hincks a brother of Sir Francis Hincks of this city, was appointed Professor of Natural History in the above named institution, which at the latter date received a grant from Government to extend its Museum. Through energy and economy a large number of specimens were added, and before Mr. Hincks' death, the Museum was considered the best then in Canada. After the appointment of the latter, the late George

Hadgraft of London, Eng., was induced to come over to Toronto to do the Taxidermal work, and then the Museum became quickly filled up. At present it contains almost all the birds and many of the quadrupeds of Canada, together with general collections of minerals, fossils, shells and plants, which have been a source of benefit and pleasure not only to the students attending the classes of Natural History, but to their colleagues and the citizens of Toronto. We learn that there is no annual grant given to further promote this necessary branch of Education in Toronto University. Yet since the last appropriation was made, a large sum of money was expended for a foreign collection of pictures for the Norman School of Toronto. This certainly occurred before Confederation, but it may be otherwise now, as we learn that some of the high Educational institutions of Ontario are self-supporting. However the Museum of the Toronto University still requires many additions to be in order for advanced classes in Natural Science. We certainly have a love for Fine Arts, but if Canada spends money for pictures intended for educational purposes, it would be preferable that it should be devoted to advance native talent.—C.

THE TRUTH.

The American Field in a late issue, referring to an article (Expose Them) which appeared in our November number, states that it does not believe what we said regarding the traps laid on the sand bar in the Swanton Marshes. We again repeat that two members of the Club were detected picking up the traps: and when discovered so doing, acknowledged that they were set for Black duck. It is not our wish to publish the names of these pseudo sportsmen, we will leave such matters to the Game-keepers of the State. In conclusion we ask the sporting Editor of the *Field* to be kind enough when he again takes the liberty to use the scissors to dissect our columns to give at least credit to the journal from which he takes his matter.—C.

ANSWER TO CORRESPONDENT.

W. A. S., Amherst, Mass., U. S.—A full set of the "THE CANADIAN NATURALIST AND GEOLOGIST" may be purchased by writing to Messrs. Dawson Bros., Montreal. There is no magazine, published in Canada, specially devoted to Botany.

Correspondence.

ROBIN vs. CROSSBILL.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST:—

SIR,—Your correspondent "Teal," in a communication which appears in the November number of the CANADIAN SPORTSMAN AND NATURALIST, affirms that I am evidently astray in regard to the tradition of the Robin picking a thorn out of Christ's head; and he does me the kindness to suggest that perhaps I "confound the Robin with the legend of the Crossbill, from the German of Julius Mosen, translated by Longfellow." I must beg leave to repudiate "Teal's" impeachment with respect to my being "astray," as well as with regard to the charge of "confounding" one bird with another. My authority for the legend regarding the English Robin is the Rev. E. Cobham Brewer LL. D. of Trinity Hall, Cambridge, the compiler of the "Dictionary of Phrase and Fable," as well as the author of several scientific books; and I prefer adopting his version of the legend to that translated from the German by Longfellow, pretty as the stanzas are. And I ground my preference on the following reason. The breast of the English Robin *Erythaca rubecula*, is *always red*, whereas the Crossbills, according to Wilson and the other Ornithologists, "are subject to considerable changes of colour." Indeed the German author, Dr. Bechstein, asserts that Red (*χέρυθος*) Crossbills are only one year old, and the greenish yellow ones are the adults." But, after all, the legend I quoted does not allude to the same transaction as that referred to by Mosen, for the Robin was said to have plucked a thorn from the crown worn by the Saviour as He traversed the *Via Dolorosa* before He was nailed to the cross; whereas the Crossbill is said to have endeavoured to pluck out one of the nails that pierced His hands and feet. This circumstance, however, only

renders "Teal's" strictures more uncalled for. The concluding stanza of Longfellow's poem runs thus:

"And that bird is called the Crossbill,
Covered all with blood so clear;
In the groves of pine it singeth
Songs, like legends, strange to hear."

"Strange" indeed! Did anyone ever hear a Crossbill *sing*? Wilson says that they have "a loud, sharp, and not unmusical note and chatter as they fly." This scarcely carries out the Poet's description. But Bechstein tells us that it utters harsh, shrill, notes with but little melody. One bird will try to surpass the other: and those are the most esteemed by the fancier which repeat frequently a sound like *reits* or *croits*, and which is called the crowing of the Crossbill." How does this account, the correct one, tally with Mr. Longfellow's "songs"?

With regard to the destruction of the American Robin, advocated by "Teal," I may remark that that bird is not much of an insectivorous bird, that I do not purpose, in future, to urge any plea in favour of its immunity, inasmuch as during my absence from home in September a number of Robins played sad havoc with my grape-vines, devouring nearly all the fruit. But, as to the "Winter sport" of "shooting Black-birds Thrushes, Larks, Redwings and Fieldfares," I desire to add that I myself enjoyed such "hedge-popping" sport *when a boy*, in England; and as "Teal" appears fond of poetry I will quote the following stanzas from an old sporting song:

"When I was but a little boy,
And scarce could lift a gun,
I oft would leave each childish toy,
And to the fields would run.

With pistol for my fowling-piece,
I thought myself a man;
And thus improving by degrees,
A sportsman's life began.

At Lark and Redwing and Fieldfare
My skill I first did try:
At every bird that wings the air
I quickly did let fly."

There, sir, is "Teal to a T. But I, when I became a man, put away such childish sport:

"When elder grown a gun I got,
A pointer, too, I bought:
And being now a decent shot
The stubble-field I sought;"

aye, and the bogs and mountains of Kerry too, where, year by year, before leaving old England for this my adopted country, I enjoyed sport worthy the name of sport, the enjoyment

much enhanced by the hard work necessitated in its prosecution. Now, "Teal" when he writes about the pleasure of shooting Black-birds, Larks, &c., and of indulging in the "good pie they make" must be very hard up for genuine sport, or he must be too greatly addicted to the Lucullus like luxuries of the table. We have read of dishes of Nightingales' tongues, of the more expensive, but not less-to-be-deprecated African draught of liquified pearls; but I scarcely expected to find the shooting of Blackbirds Thrushes, and Larks, for pies dignified with the term "Sport?" in the pages of your Journal.

VINCENT CLEMENTI.

Peterboro, November 19. 1881.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST:

SIR,—Three friends and myself left Montreal on the 4th November, bound on a duck-shooting trip to Lake St. Francis. We anticipated some good sport, but were doomed to disappointment, as, on arriving at the lake next day, very few ducks could be seen. We tried several of the best-known places on the lake, for four days, but very few ducks came to our decoys. So, we packed up our traps, and left Lancaster, sadder, but wiser men. We shot about 30 ducks, most of them being Scoters, and Buffle-heads. I shot a long-eared owl, (*Otus Wilsonianus*) on Ross' Island, which may interest ornithologists. A gentleman informed me that he was shooting on Lake St. Francis, about the middle of October, and, at that time, Red-heads and Blue-bills, were plentiful. He had some good sport, killing thirty of the above-named ducks in one day. Large Yellow-legs and Jack-snipe were abundant, but as the ducks afforded him such good sport, he did not go after the former. An American steam yacht arrived on the lake the day he left. I was informed that these Americans slaughtered several hundred ducks in a week, and one day killed 127 ducks, shooting out of a sink-boat anchored out in the lake, and having about 200 decoys out. I cannot understand how it is, that the Canadian authorities do not put a stop to these pot-hunters slaughtering our game to supply American markets. If Canadian sportsmen went on United States grounds in pursuit of game, they would very soon be arrested, fined, and their guns confiscated. Therefore, we should retaliate on them. I notice that the Fall ducks vary in their arrival and departure from our lakes, and would advise sportsmen

to ascertain from persons resident near the lakes, to inform them of the first appearance of the ducks, so that they can start on their shooting trips at the right time. Very few Red-heads, Blue-bills, and Plover were exposed for sale in our markets this Fall, but plenty of Black Ducks, Teal, Woodcock and Snipe. I am under the impression that the Red-heads and Blue-bills departed the latter end of October. If many were observed in November, I should be interested to hear of it through the columns of the CANADIAN SPORTSMAN AND NATURALIST.

TEAL.

Montreal, 4th Decem̄ber, 1881.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST:

DEAR SIR,—I take "in good part" your strictures on my notes to Professor Macoun's ornithological record, and hope you will receive what I have to say in reply in a similar candid spirit. In the first place I would point out that there is a general disposition on the part of our best naturalists to simplify the nomenclature, by abolishing many of the genera which have been recently established on what are considered very insufficient grounds, and at the same time to retain or restore those names which are entitled to priority, with the exception of such as are manifestly inappropriate, as having been bestowed either in the absence of sufficient knowledge, or in misconception. The name "*Lanius*" is certainly entitled to priority in point of time, having been bestowed on the Shrikes by Linnaeus, while "*Colluris*" originated (not with Dr. Baird,) but with Vigors. There can be no comparison between these two names as to their appropriateness, the former being exactly descriptive of the habits of the bird; the only objection that can be made to it being that it does not come from the Greek, but from the Latin language. The name *Colluris* appears to me to be far-fetched and inappropriate, inasmuch as the only derivation I can find for it is *Κολλῦριον* (*kollurion*), diminutive of *Κόλλυρα* (*kollura*), equivalent of *Κόλλιχ* (*kollix*), a long, narrow loaf of bread, this is latinized into *Collyrium*, eye-salve, so called because put up in small cakes. Now the bird does not eat bread, either in long or short loaves; and certainly does not use eye-salve either in large or small cakes, and I therefore think that this may be taken as an example of the reckless manner in which ridiculous names have been inflicted upon unoffending species by

fanciful authors. You have evidently formed a wrong conception of the scope and character of Professor Jordan's "*Manual of the Vertebrates*." It is in fact a very valuable work, carefully condensed and compiled from the best American authors, and I would as strongly recommend it as a book of reference to the student of vertebrate life, as I would Nuttall's or Walker's Dictionary to the student of the English language, for it has the merit of presenting the distinctive characters of each species so clearly, and so free from the unimportant details with which too many writers overload their descriptions, that both Professor Macoun and myself have been able through its means to identify several birds and other animals which we had failed to recognize from other more laboured and pretentious works. I may say further that it is only in the edition of 1881 that Dr. Jordan has restored the name "*Lanius*," having adopted "*Colluris*" in his former editions.

Your obedient servant,

JAMES T. BELL.

Albert College,
Belleville, Dec. 5th, 1881. }

P. S.—I find that I made a mistake in the name of the worthy sportsman whose success among the Bass I recorded in my former letter; his name is Ormond, not Orwin, as I accidentally mis-spelled it. J. T. B.

Some of our hunters have visited the northern part of this district with pretty good success. Messrs. S. B. Burdett, H. Corby, and Jas. Clarke, spent a week at Loon Lake, and killed five deer in three days hunting. In Dunganon and Faraday, Messrs. R. Tait and J. Roy, one day, drove three deer into Bay Lake, all of which they killed. In the afternoon Mr. Roy went out again and killed another by still-hunting. Game of all kinds is unusually plentiful in the northern townships of Hastings this year. A few days ago Mr. R. Day shot thirteen partridges (Ruffed Grouse) within three miles of the city of Belleville.

J. T. B.

A GENERAL DELUGE.

BY G. W. BROWN, M. D.

(Our Home, and Science Gossip.)

China claims a written history of 300,000 years. She gives the names of dynasties who have ruled over them for more than 50,000 years. May there not be more truth in their histories than we have given them credit? They have had a written and printed language from time immemorial. It is very probable,

as we have before suggested, that China has remained above the surface through all the wrecks of comparatively modern continents; that formerly the western boundary of a coast line, by submergence on the one hand, and upheaval on the other, its condition has been changed to an eastern one. This idea is strengthened by the evidences of antiquity which mark that people; by their numerous population, being nearly equal to all other portions of the globe; to their traditions extending far back into the past; their historical accounts, and the general opinions prevailing in all countries that the world was peopled from the East. And as almost conclusive evidence in support of this proposition is the identity of religious belief, universally prevailing, when stripped of additions made to earlier teachings by advancing civilization.

Perchance, were we able to follow these reflections to a natural conclusion and had the desirable knowledge which present explorations are developing, we could show that the wonderful records left by a long extinct race in Peru and Central America, of pyramids, and walled cities, and gigantic statuary, and mummies, instead of being the reflex of Asiatic civilization are the parents of these comparatively modern nations.

The preceding pages, relative to a so called general deluge, are only suggestive, but sufficient to awaken thought in the direction we have indicated. We offer, in corroboration of this theory, what to us is conclusive—that in the remote past a continent densely populated occupied at least a portion of what is now the Pacific ocean; that the islands visible in that ocean were but elevated lands and plateaus of ancient mountains; that the now eastern and western continents were then but beds of mighty oceans; that by slow processes, extending through countless ages, they slowly emerged from the sea; that the present order of things is comparatively modern *dating back but a few hundred thousand years*; although there are evidences of a still remoter past, when animal life, man included, inhabited the present continents, antedating the glacial period, and probably before its last submergence, to which condition it is again inclining. For proof we may state that the city of Quito, since 1745, in 1870 had sunk 246 feet, by careful observations made at different periods by the ablest scientists. Pinchinea went down 218 feet during the same period, and its crater has sunk 425 feet during the last twenty six years.

When Columbus landed in America, in 1492, he found a people so closely resembling those of the extreme east of Asia, he supposed he had reached the Indies in his journey around the world, and, hence, gave them the name of Indians. A more intimate acquaintance with these people revealed the additional fact that their religious notions and many of their traditions, particularly those pertaining to a general deluge, were identical with those prevailing throughout Asia. Travellers among them found that many words used by these nomadic tribes were the same as those employed by Orientals. These travellers, accepting the Mosaic account of creation, with its very brief period of human existence, believing the Creator fashioned the earth substantially as we see it now, and not questioning the scriptural account in regard to the dispersion of races, concluded the "ten tribes of Israel" wandered toward Behring straits, crossed over, thence down the coast to Mexico, and from there gradually spread over the entire American continent.

With us, a common use of primitive terms among widely separated nations, is positive proof of a common origin of these peoples; but in no way does it corroborate the idea of those who are ever drawing upon foreign and irrelevant facts to sustain an inconsistent theory, that the Indians are decendants of Abraham.

Islands in the Pacific ocean, hundreds of miles apart, and thousands of miles from the main land, either Asiatic or American, were found by the first explorers to be inhabited by the same race, marked with the same peculiarities of complexion, general features, color of hair, etc., and each had customs in common, with gestures and expressions so similar that they could make themselves intelligible to each other when they first met; and yet, the inhabitants of one island had no idea of the existence of others outside of their own islands. It has been suggested that the ancestors of these people formerly held intercourse by means of canoes. This hypothesis is simply preposterous, as a canoe could not live for weeks on this boisterous ocean, without chart or compass, and pass from one island to another. This would and did take place with islands near to and in sight of each other; but such explorations would never be undertaken by savage tribes, as they were wholly destitute of that species of adventure.

(To be continued.)

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. I.

MONTREAL, JANUARY, 1882.

Vol. II.

WILLIAM COUPER, Editor.

OUR NEW TITLE-PAGE.

Our readers will, no doubt, be pleased with the improvement which we have made in our Title-page. The design is by Mr. A. F. Dunlop, Architect, and the engraving by Mr. J. L. Wiseman, both of this city. The work reflects credit on the skill of the artists.

KILLING FISH BY DYNAMITE.

The residents of Indiana have been making use of the above explosive to kill fish. The shock destroys hundreds of marketable fishes, but at the same time there are thousands of young fish killed and allowed to decay in the water. The destructiveness of this method is so great that popular indignation should arise against it. We have been informed that the unmarketable fishes thus destroyed by dynamite in the White-water River, Ill., were seen floating in the river and its tributaries fully forty miles from the scene of the explosion. We have some knowledge of a similar experiment to kill fish in Canadian waters. The party who tried it, made the first attempt at Quebec. Americans to-day would call such a man "crank," and although we have frequently remarked "daft" moments in his dealings, he was determined and had energy as a fishmonger. The material had to be obtained to supply his customers, and as he could not procure sufficient by net process he thought of trying the dynamite one. On a beautiful summer's morning, he arose from his bed in Blanchard's Hotel, and taking a handsome trout rod in hand, proceeded to the Custom-house wharf, alongside of which lay a small trading schooner. The dynamite fish-killer tripped lightly on board the vessel, and having quietly adjusted the explosive to a line attached to the fishing rod, the experiment began; but the Skipper, who was in his berth,—hearing light

footsteps on board his craft—came forth from his cabin just at the instant of the explosion to find the schooner and himself thrown partially on the wharf. Of course the Skipper asked him "what you do there," but he coolly answered that "he was fishing," that a large fish took hold of his bait, and the line and a great portion of his twelve dollar rod were gone. The turmoil being over and the experimenter having quickly disappeared from the scene, the matter ended, but it must be remembered that he had an object in view and that was to discover if he could procure fish in large quantities by a cheap and easy process. This was his first trial with the dangerous article, and we cannot say that he tried dynamite again, but the intentions of this fishmonger were to dynamite the Trout Lakes of our Laurentide mountains, in order to procure large quantities of fish to supply the demand of the American market. He failed, however, as every man will, who uses unnatural or unlawful modes to catch his game. We have had accounts of large quantities of small fishes belonging to several species having been seen dead on the waters of Lake Ontario, and even in the Lower St. Lawrence, but no one has given a proper cause for the mortality. We are told that some years ago, the Norway Haddock (*Sebastes Norvegicus*) appeared in thousands opposite Metis, but they were all dead. Millions of Sticklebacks have been seen on the surface of the salt water in the Lower St. Lawrence, but what killed them is a mystery. Some attribute it to aqueous earthquakes producing sulphureous gases. Water may be poisoned in many ways; we know that lime when cast into the upper portion or source of a trout stream, will, in a short time, kill every fish in it. Fresh cut pine sawdust when thrown into a river, becomes disagreeable to fish, but this dust produces greater harm after it accumulates, for saw-

dust will go together even under water, and we have known instances on the Ottawa when the acid and pyroligneous carbon exploded in winter sending the ice into thousands of pieces.—C.

HATCHING SALMON.

The Government of the Dominion devotes a large amount of money annually for fish hatching, and a few men derive a very comfortable living from the business. But we doubt that since the hatcheries were erected the species of fishes hatched therein have increased to be of additional commercial value. What has become of the thousands of young fishes which were planted in Lake Ontario? Were any of them seen since? What have they produced? These are important questions to ask. The hatching establishment at Newcastle must make some kind of show, and the employees have to exhibit a little energy in order that the Government may see that they are working for their money. This is all very well if anything could be shown for the outlay. We say that nothing of apparent value has as yet been derived from hatching Salmon in Canada. On the contrary, the adult fish are taken from one river and killed to procure *ova* that other rivers may be stocked; yet the hatching of Salmon has been going on for years in the Provinces of Ontario and Quebec, and the fish are becoming scarcer year after year. This is pointedly the case on the south coast of the Gulf of St. Lawrence, where Salmon hatching houses are situated. It is true that there is too much netting and too many weirs set up in the tidal waters which are destructive to all marine fishes, and the Salmon have to suffer from these causes, but we deprecate against the evil mode in which adult Salmon are taken from their native river to procure material for the imaginary purposes of increasing the species. It is cruel, for the fishes are destroyed in the process, besides it is unnatural that Salmon should be planted in a river, the water

of which is disagreeable to them. Of course the Fishery officials will say that we know nothing about hatching Salmon. True, we have not been in the business but possess a knowledge of the operations. There is this argument however, in our favour, that is to say, it is interfering with a course of nature, which if allowed to proceed in the old way would doubtless show that it is wrong. The object of these fish-breeders may be to make new species by transporting and transmuting. They would like to make a new species of Salmon (in fact, that has been tried already; it however turned out to be old *Salmo salar* after all), but it is impossible, the process is not natural. Instead of changing the form or flavour or increasing the true Salmon, they are merely helping to produce depredation, and we wonder that the system has been so long allowed. It would be far better for the Government and the country to devote a portion or all of the money expended on hatching fish, to make the rivers easy for Salmon to reach their natural spawning-grounds. Artificial fish-leaps should be made in several rivers along the North Shore of the Lower St. Lawrence. If such work was taken in hand, there are several rivers now almost worthless that could be made profitable, and the Fishery Department are cognizant of the fact. The late Rev. Dr. Adamson, published a pamphlet on this subject. We have spoken of it before, but the Department will take neither advice nor instruction from any man—not even a lessee of a river, who, in many cases, knows more about it than they do. To show the cruelty and destruction of the fish culturists, we here take the liberty to quote from the *St. John News* of August 1881, where the editor attacks Professor Hind's theory regarding the migration of Salmon. We have had the pleasure of knowing Mr. Hind when Professor of Chemistry in Trinity College, Toronto, and have read some curious statements in regard to his knowledge of Natural History since he removed to Nova Scotia; but it matters not, we

have some consideration for Professor Hind's investigations regarding the noble fish, and when he wrote of the migration of Salmon, depend on it, he was not far astray. His knowledge of Natural History cannot be pool-pooled by any penny-liner. We also can vouch for the fact that sea-trout and brook-trout enter the upper waters of *all* Salmon rivers, for two purposes, (as they are parasites on their own genera), to destroy the eggs and fry of *Salmo salar*. The Salmon fry allowed to escape from the hatcheries in New Brunswick, have been devoured by trout immediately after being deposited by the officer. "F. L." a correspondent to the *St. John Telegraph*, makes this statement, and we can corroborate it. The system of netting the pools to supply the hatcheries with *ova* is destruction to the parent fish, as we find that it takes 500 females to supply *ova* for the first start of a single hatchery, and we are informed that there are four hatcheries at present operated in the Lower Provinces. Then, taking these at 500 each hatchery, it is requisite that 2,000 female fish are annually destroyed in the spring in order to keep these officials going; and besides, it is necessary that a certain number of males should be obtained to fertilize the *ova*. What a destruction of fish? which if allowed to pass up to their natural spawning-grounds, would in the true course of nature, produce more genuine Salmon than all the hatcheries in the Dominion. What cruelty? What waste? Now we have proof of what we say! We wish this business ended!! Are there no scientific men in Parliament? Cannot some one stand up for the rights of truth? If not, then farewell to our Salmon fisheries: farewell to the Salmon hatcheries; and farewell to the Fishery Department.—C.

SPORT AND SPORTSMEN.

What is "sport" and who are "sportsmen?" appears to be peculiarly defined by European and American writers. There is a vast difference between play and pastime for a consider-

ation, and diversion, or properly speaking the pleasure a man acquires when he turns aside from his every day duties to go off to the woods, prairies or marshes in search of game. A sportsman is a man of activity, fond of hunting and fishing, willing to pay freely for his privileges. He disdains unlawful acts and always has an eye on the pot-hunter. The gambler is not his companion; his associates are always gentlemen. Such a man is a true sportsman—a lover of legitimate sport. What then constitutes "sport?" It consists virtually in the relief of man from business confinement, that recreation may be obtained with rod and gun, in the woods, on the lakes or along the river banks. "sport" is what we call fair play between "man and beast;" and the man who stands by this motto will never feel ashamed of his position. It is said that Fox and Otter hunting constitutes "sport," and we have nothing to say against it, because they show fair play, and the chase does not arise from mercenary motives. Nothing of this nature has so far appeared among the Fox-hunters of Canada, and as regards the Otter its venation is not carried out here as in Scotland. It occurs to us that the word "sport" is not properly rendered. It is said to be "a diversion, pastime, jest, game or jingle," and it is evident that on the strength of this broad definition, editors of American sporting papers allow their columns to be filled with pastimes under the heads of horse and boat-racing, cock-fighting and other gambling jingles, games, jests, pastimes or diversions, none of which have a tendency to elevate mankind. We are not anxious to make the acquaintance of men who will publish and circulate this kind of literature; our aim is to serve a far higher type of mankind. We appreciate athletic sports—it is a grand idea of the young men of Canada to emulate the strong Roman—the youths who will perform on the cross-bar without the "bar," will eventually come out without a scar. The pastime of a young man devoting

a portion of his leisure to the study of Natural History is "sport."—we appreciate his enthusiasm when he enters the woods with insect-net in hand—he has no mercenary objects in view, but a love of study. The student of Geology, Conchology and Botany, and the man who rambles through the fields to procure something to instruct his brother does good and enjoys "sport." Then, in the name of all that is human, why should the word "sport" be associated with such unnatural proceedings as cock-fighting, killing salmon to take their progeny from them; injuring high-bred horses by racing, or gambling in any form, be encouraged in Canada.

The first volume of THE CANADIAN SPORTSMAN AND NATURALIST, the only journal in Canada devoted to the lovers of the rod and gun, suffices to illustrate what we intend to follow up, and despite whatever opposition we may receive hereafter from pseudo Canadian Sporting papers, the pages of our periodical will not be contaminated by productions that are not fit to be read by the most fastidious man or woman.—C.

THE INFLUENCE OF SPORT.

To those who are not in the habit of using the gun or fishing-rod it may appear strange that a certain number of their fellow beings have such a fondness for the pleasures of the chase. By some the amusement may be considered childish, by others cruel; yet there is, perhaps, no pastime more calculated to develop a manliness of character than the art of shooting or fishing as practised by a lover of these sports. That, which at one time was the principal occupation of our forefathers, has now become a popular diversion, indulged in by all classes from the peasant to the peer; royalty itself has not been proof against its attractions, and the pleasures of court have been forsaken for the excitement of moor. We need not wonder at the fascination which the forest has for the hunter, or the river or brook for the disciple of "Walton." The pleasures of cast-

ing for trout, or playing the noble salmon, afford opportunities for the display of more manly qualities than a novice is apt to suspect. Patience and judgment, as well as a certain degree of skill, are requisite to success; and who will say that these are not equally essential in other pursuits in life? A love of nature is usually combined with a love for sport; the wanderer in the forest becomes attached to her solitudes, he derives instruction as well as amusement from a contemplation of her works, while the prosecution of his sport affords him at the same time that invigorating exercise so necessary to the enjoyment of health.

WALLACE.

THE PETER REDPATH MUSEUM.

This handsome building which will be hereafter looked on with pride by the inhabitants of Montreal, is situated a short distance from McGill University, to which it is attached for museum educational purposes. The college collection of specimens, in a geological and paleontological view, are extensive, and when arranged in the new building, will be seen to advantage. The Carpenter collection of shells will also form a grand feature of interest both to student and visitor. Dr. Dawson, we are told, will add his own private collection, and a large donation of specimens will be added as soon as the museum is ready for occupation. Montreal will then have a thorough educational museum of Natural History, and the only one in Canada that can compare with some of the Collegiate Museums of the United States. It is expected to be open by the time the American Science Association meets here in August.

What will the Natural History Society of Montreal do when the Peter Redpath Museum opens free to the public? Will they be able to keep up their establishment on the present nominal public charge of admission, a small membership, and a poor government grant? We doubt if they can, and being aware that they were at one time willing to amalgamate

with the Fraser Institute, would it not be a good move on the part of the Council of the Natural History Society to make the same offer to the authorities of McGill University? By so doing, the collections in the Peter Redpath Museum would at once become most extensive, and doubly instructive, in fact the best on this continent. The Geological Museum at Ottawa could not make a comparison with it. We throw out this hint that the matter may be ventilated by those who are interested in it. Unless something of this nature takes place it is seemingly evident that the dissolution of the Society is merely a matter of time. The new museum is only a short distance from the old. The former will be visited by thousands of the inhabitants and visitors to the city, while the old Society must continue to charge for membership, and the entrance of strangers. Then we say that the Natural History Society of Montreal should cast away its fossil condition and join an institution with some vitality in it.—C.

Correspondence.

ENTOMOLOGY.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST:—

SIR,—I have received the November number of your valuable journal, containing a very friendly and favorable notice of Transactions No. 2 of the Ottawa Field Naturalists' Club. In this review exception is taken to names of two weevils which are mentioned in my paper on Coleoptera, injurious to the Pine. The first complaint is that *Polydrosus elegans*, Couper, is given as *Scythropus elegans*, Couper, according to Crotch's revised Check List. As this list gives the *Rhyncophora* according to recent classification, and was issued under the supervision of LeConte and Horn, the blame, if any, of changing this beautiful beetle's generic name, must rest upon their broad shoulders. I may say, however, that in your description of this beetle (published in Canadian Naturalist, 1865,) you give it as *Poly-*

drosus? elegans, and at the close of this description add that LeConte does not think it a *Polydrosus*. As regards *Hylobius Stupidus*, Sch., my defence is equally simple. The species is given in the printed lists of the Entomological Society as found in Canada, and my beetles were named by careful comparison with a specimen so labelled, in the collection in possession of the Ottawa Literary and Scientific Society. This fine collection was arranged by Mr. Billings, with, if I mistake not, the assistance of Mr. Pettit and yourself. I have failed to find in THE CANADIAN NATURALIST your description of *H. pinicola*, or I should have compared my beetles with it. You state that it is strange that the species should lie dormant so long when such experienced entomologists as Mr. Billings and yourself collected together for three years around Ottawa. This certainly shows the beetle to be very rare, but does not prove its non-existence. I collected actively for three years without finding it, and have since obtained but three specimens. Mr. Fletcher during a similar term of years has not succeeded in finding one specimen. I hope shortly to have all undetermined and doubtful species named by competent authorities; until I am able to do so this beetle must rest in my collection as *H. Stupidus*.

W. HAGUE HARRINGTON.

Ottawa, 15th Dec. 1881.

NOTE.—I am satisfied with my colleague's statement regarding *Scythropus elegans*, Couper. If Dr. LeConte removed it from the genus *Polydrosus*, the matter is settled. I would, however, be pleased to have a five minutes' glance at *Hylobius Stupidus*, Sch., as at the time I described *H. pinicola* in Transactions Literary and Historical Society, Quebec, —New Series, part 11, p. 85, 1865—I remarked that another of the same size was found in Western Canada, but with marked difference in elytral characters. I had not the Western insect to compare with my Quebec specimen. *H. pinicola* is allied to *H. arcticus* of the other continent. I have no knowledge of *H. Stupidus*, hence the remarks which led to this correspondence. I was wrong in saying that I described *pinicola* in the Canadian Naturalist and Geologist, published at Montreal.—C.

DANISH SUPERSTITION REGARDING THE CUCKOO.

SIR,—Having admitted into your journal “The Legend of the Crossbill,” and a controversy regarding the Robin as “God’s Bird,” I think the following may interest your readers:—

On the appearance of the Cuckoo (*Cuculus canorus*) in Denmark the village girls, in spring time, kiss their hands—addressing the bird when they hear its note—exclaiming, “Cuckoo, cuckoo, when shall I be married?” Then the old Danish folks, born down with age and rheumatism, repeat the words, “Cuckoo, cuckoo, when shall we be released from this world’s care?” The bird continues to call “Cuckoo” so many times as years will elapse, evidently satisfying and dissatisfying many young and old regarding their peculiar wishes. But as some people live to a maximum age and girls may become old maids it is supposed that the poor Cuckoos are so much engaged in annually answering these superstitious people, that they have no time to build nests. Therefore, the eggs of the Cuckoo are deposited in the nest of the Hedge Sparrow (*Accentor modularis*.)

R. S.

Montreal, December, 1881.

NOTE.—The female Cuckoo should, in accordance with the general nature of birds, be the nest-builder, and the male is only supposed to call “cuckoo.” Our correspondent evidently writes the above to show that one European legend is as good as another. They are either childish or doting thoughts propounded from a want of proper education. We do not wish to have any more of this kind of matter. Give us something original.—C.

THE ACCLIMATIZED SPARROW.

SIR,—As a lover of birds, and being a friend to that pert little bird called the European or English Sparrow (*Passer domesticus*.) will you kindly insert in your valuable journal the following extract from the “Gardener’s Chronicle,” London, Eng., July, 1879, on the

USES OF THE SPARROW :

“We are sorry that Sparrows are still regarded as enemies by many of our village husbandmen; thus the overseers are yet empowered by the vestry meeting to pay one-half-

penny per head for all destroyed. It is a pity we have not yet learned more humanity, for without doubt this persecuted bird is one of the best friends both to the gardener and farmer. A calculation has been made that a pair of Sparrows destroy nearly four thousand caterpillars per week; besides other insects, while rearing their young. When Cockchafers (*Melolontha vulgaris*) abound, which happens periodically, they would speedily become a perfect pest but for the Sparrow. It is true the Rook (*Corvus frugilegus*) destroys an immense quantity, yet it should be remembered the despised Sparrow has access to gardens and other small enclosures where the Rook is denied access. The Sparrow fortunately does more for our house comfort, for he destroys one of our greatest pests, the common house-fly, which, were it not for his persistent efforts, would multiply to an alarming extent. Scarcely anything in the way of insect food comes amiss, for he is a voracious feeder. Therefore he should be regarded more as a friend than a foe.”

P.S.—I believe since the above was written, the “Wild Bird’s Act” protects the Sparrow.

—R.S.

NOTE.—The Domestic Sparrow’s habits have considerably changed since its introduction into Canada.—C.

A GENERAL DELUGE.

BY G. W. BROWN, M.D.

(Continued from page 96.)

On many of the islands of the Pacific are found traces of an ancient people who possessed an order of civilization closely resembling that of Oriental nations, as first revealed to us at the commencement of the historic period, and almost identical with those now being explored in Mexico and Yucatan, and similar to those of Peru in South America. These people passed away, as did the mound builders of our own country, leaving enduring monuments of their labors, which modern travellers look upon with astonishment, as they reveal a period of considerable advancement in the arts, and a knowledge of mechanics unknown to their degenerated successors. In support of this proposition, we make the following quotation from a newspaper article which we find floating through the press without credit, but fur-

nishing well authenticated facts of discoveries in the Pacific, a multitude of a similar character being within reach of the common reader:

"In the middle of the Pacific ocean, 3,000 miles distant from the nearest continent, lies Easter Island, abounding with remains of a remote antiquity, which have interested and perplexed a party of savants who recently visited them. This island is 40 miles in circumference, of volcanic origin, barren, no trees, destitute of resources, and inhabited by a few savages who lead the most miserable life imaginable. But upon this narrow strip of land so barren and unproductive, the explorer beholds a forest of gigantic statues, of the origin and beginning of which the race dwelling around know absolutely nothing. The smallest of these statues measured 30 feet, and a few attain the incredible dimensions of 50 feet. Some repose upon Cyclopean platforms; the greater portion of them wear crowns about six feet in height, which have evidently been placed upon these statues after their erection. The foreheads of the statues are retreating, and the mouths prominent, which indications may possibly reveal the race who constructed them. As regards the workmanship displayed upon them, it is rude and clumsy, although not destitute of character and expression. The questions concerning them presented for solution are: What do they represent? Whose handiwork are they? and how came they there? How possibly could this barren island have nourished a race of men capable of raising such monuments? Where is the race? What country do they still inhabit?"

It is well known to the antiquarian that Asia was originally populated by a black race, as is Africa in our day. These aborigines receded before the great Aryan wave which rolled down from the Northeast, driving before it the weaker, as do the same race with the Indians of America at the present time. They overran the great plains of Central Asia and made permanent homes in the valleys of the Tigris and Euphrates; thence spread eastward, intermingling with the already mixed population inhabiting Iran and Hindostan, while an advanced wave, pressed by those in the rear, crossed the Isthmus of Suez, and established themselves along the Nile. These parent waves spread westward and overran Europe, with colonies to Northern Africa, everywhere destroying the males and intermixing, forming varieties of races. In process of ages the same dominant race crossed the Atlantic, to repeat the barbarities of a remote age on the natives of this country, and to efface the link which connects all these with a submerged race over which rolls in majestic and solemn grandeur the deep and surging waves of the mighty Pacific.

It is well-known to geologists that animals whose habitat was in or near the tropical regions, and distant from which they could not survive, have been found embedded in ice in the Arctic regions north of Asia.* They were

so well preserved through the countless ages since their hyperborean imprisonment that their flesh was consumed by carnivorous animals now inhabiting those regions when a warmer sun melted their encasement. This fact of itself demonstrates that the polar regions were once approximating the equatorial; for these animals could never have wandered so far from the places of their nativity. It also proves that the change from a high to a low temperature was sudden, not leaving time between for animal decay to commence after the destruction of life, and the formation of ice, by which they were preserved.

Beds of most excellent mineral coal are found in Greenland, from where it is quarried and loaded directly on ship board of exploring steamers visiting those high latitudes. It is found out-cropping from cliffs at the very margin of the sea. Whether there is more than one stratum of such coal the writer is not informed.

Twenty-eight different beds of coal, superposed one above another, with varying thickness of intervening rock and slate, have been opened and worked in Great Britain. The lowest of these is more than 5,000 feet below the present surface of the sea. This tells us, with unerring certainty, that there has been twenty-eight epochs, each of indefinite duration, when those islands were alternately above and below the sea level; periods when the earth was covered with dense verdure; when the surging ocean rolled over it, and covered that verdure with sand and gravel, the material of which overlying rock was formed; when it again emerged; was again adapted to the growth of vegetation, and again, after the lapse of countless ages, went down, and so has continued until the present order of things was introduced.

What is true of the British islands in this regard, is probably true of every other island and continent on the globe. And this oscillating condition of the earth's crust will ever go on with seas and continents while the same laws which have governed matter as in the past shall continue. To-day a continent, covered with animal and vegetable life; to-morrow the ocean rolls its turbid waves over the melancholy wreck, leaving no trace of the toil,

and sold in great plenty. He declares his belief that the bones still left in northern Russia must greatly exceed in number all the elephants now living on the globe.—*Sir Charles Lyell, in his Principles of Geology, p. 81.*

*So fresh is the ivory throughout northern Russia, that, according to Tilesius thousands of fossil tusks have been collected and used in turning; yet others are still procured

anxiety and unbounded hopes of him who had delved to make it a satisfactory home for his ambition.

The present revealings on the surface of Greenland, where a few hundred years ago were green fields, waving forests, flowing rivers, populous and thrifty villages and a contented people, show only mountains of ice, all nature congealed, a country of desolation and snow. This change has been gradual, and the temperature is still declining.

Iceland, too, is slowly undergoing a similar change. At the same rate of decadence in another hundred years it will cease to be habitable. Already such portions of the population as have means are removing to the northern latitudes of America. The island, like Greenland, will soon be a cold and dreary desolation, to so remain until other changes shall transpire, when it may again, in a lower latitude, become the home of man; but ages of frost and ice must first mark its site; other lands in turn, now nearly tropical, must become frigid; and then it is questionable if any traces of man, even as insignificant as the stone axe or arrow head, shall remain to excite wonder or curiosity among those who shall delve in its soil.

While we can account for the gradual changing of the polarity of the earth and the shifting of climates—the glacial period always existing in some parts of the earth—we cannot, by the same mode of reasoning, explain why whole continents are suddenly submerged, or why the beds of oceans, as suddenly, become continents.

The equatorial diameter of the earth is greater than the polar by some thirty-four miles. While the centre of gravity remains as now the polar and equatorial regions will remain substantially the same; but if from any cause the polar shall preponderate, then a change in polarity will ensue. Such, without doubt, was the case when the tropical elephants were encased in the icebergs of Nova Zembla and Spitzbergen.

Mountains of ice are continually forming within the arctics. The heat of summer cannot reach them; but century after century, and age after age, the accumulation goes on, adding to the polar density. Some disturbing element as an earthquake shock convulsing the globe, a volcanic eruption and upheaval,

or the addition of some fragmentary planet or wandering body lost in space, which has been attracted from its orbit by its nearness to our earth, falls upon it, the equipoise is lost, and the waters of the ocean, seeking their plane, roll over their rocky bounds, engulf continents, and sweep away every vestige of aspiring man save the few favorable locations which accidentally escape the *general deluge* and the submergence of continents.

Such has been, such will be again and again the fate of the globe. Man beholds the traces of his labors all around him, finds everywhere, even deep down in the bowels of the earth, evidences of his great antiquity, and looks upon all as stable and enduring. He inquires of the pyramids, ascends their summits, wanders through their interior labyrinthian passages, and seeks to find the motives for their construction. He deciphers the inscriptions on their walls, and is astonished with the power and wisdom of those who made them. He finds their builders were interlopers from some other country, and at a very remote age. Human records fail to give the origin of these people, or the country from which they came. The antiquarian lends his aid. He finds the mounds and tumuli of America identical in general form, and evidently constructed for the same purpose, with those covering the vast *steppes* of Asia. The mounds are traced down the valleys of the Tigris and Euphrates, and a feeble idea of their magnitude is learned by exploring the ruined temple of Belus—the wonderful tower of Babel, of biblical story—on the site of ancient Babylon. As we follow the nomadic builders of those structures we overtake them in the valley of the Nile, driving out the native blacks, as they had already done in Asia, setting up a new civilization peculiarly their own, and erecting their mounds, towers and pyramids, each step of their progress marking an improvement on the preceding, the general idea and purpose of which their remote ancestors carried out with them from a continent which was gradually submerged, the inhabitants retiring before the incoming ocean. During the long periods of their journeyings, resting for centuries by the way, and again advancing, they reached that region; foreigners on a foreign shore, where we first find them at the commencement of the historic age, making aggressive inroads upon the native populations of Asia and Africa.

(TO BE CONTINUED.)

ELECTRICITY IDENTICAL WITH LIFE.

NORMAN'S ELECTRO-CURATIVE APPLIANCES,

FOR THE CURE OR RELIEF OF

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ADOLPH DEL.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 2.

MONTREAL, FEBRUARY, 1882.

Vol. II.

WILLIAM COUPER, Editor.

TO OUR CORRESPONDENTS.

We shall be pleased to receive communications upon all matters relating to Sport and Natural History, and our columns will always be open to friendly discussions upon these subjects. We have to request, however, that our Correspondents omit all personalities from their manuscripts, otherwise we shall be obliged to refrain from publishing them.

Ed.

TOLING DUCKS.

Some birds are very susceptible to the promptings of curiosity, and advantage of this is taken by sportsmen to decoy them by very simple devices. The system of toling ducks, though not very generally known in Canada, has been practised in England and the United States for a great many years past.

Toling consists simply in attracting the birds to the shore, where the gunner remains concealed at some convenient spot, and is performed by a dog, taught to run up and down the beach, where the ducks are feeding, at some point not too far from shore. The discovery of this mode of decoying ducks was quite accidental, being attributed to a circumstance noticed by a sportsman, who, concealed behind a blind, patiently awaiting the approach of some Canvas Backs, observed that they suddenly lifted up their heads and moved towards the shore. Wondering at this unusual procedure he naturally looked around to discover the cause, and observed a young fox sporting on the river bank; and the ducks, all eagerness to gaze upon him, were steering their course directly for the shore. This mode of decoying, however, is confined to very few species of ducks, and can only be successfully practised early in the season,

before the birds have become too wary. Most dogs require very little training to become adepts at toling, and will usually keep in motion on the shore if they see a flock of ducks approaching. Canvas Back, Blue Bill and Red Head are the species generally procured, as they are also the most easily attracted by decoys. The writer, while snipe shooting at Lake of Two Mountains in the Autumn of 1878, was a witness to the success of this method of attracting ducks. Having seen a large flock of Red Heads feeding at a distance of about four hundred yards from the shore, a hiding place was selected, and a small pointer dog which accompanied us was allowed to run along the beach. At sight of the ducks the dog betrayed great eagerness and ran excitedly to and fro on the river bank, the ducks in the meantime perceived his movements and almost immediately turned their course towards shore. In a few minutes, more than fifty Red Heads were within range of our guns, some of them, in fact, not more than ten yards from the dog, and all apparently greatly interested in his motions. We had deferred firing as they were pretty well scattered in the water, but at last could restrain ourselves no longer, and as the smoke from our guns rolled away we gathered up five birds, which we considered not a bad result from our first experience in toling.

WALLACE.

CRACK SHOTS.

Some sportsmen enjoy the enviable reputation of being what are termed "crack shots," they have acquired such a degree of skill in the art of shooting that if a bird rises within range of their death-dealing tubes, no matter how dense the cover, or how difficult the shot, the unfortunate bird is doomed to destruction and is speedily consigned to the depths of their game bags! At least such is

often the impression of those who are not initiated into all the mysteries and uncertainties of shooting, and the "crack shot" is usually too proud of his reputation to dispel this illusion, or to keep any count of the misses he may make. Some few years ago the writer was in the habit of visiting a place not many miles from Montreal, and where there was a stretch of woods extending three or four miles in length, and in which, at that time, there were a good many Ruffed Grouse. During one of my visits the birds were pretty numerous, but I had by noon only succeeded in bagging two brace, one of these being a "pot shot," while I had missed at least a dozen shots, the cover in most places being very dense. While pursuing my sport numerous shots were fired from the other end of the wood, three or four reports in rapid succession made me aware that more than one gun was being employed, and that game was apparently plentiful. In a short time the hunting party approached near enough to enable me to recognize three well-known sportsmen and reputed "crack shots,"—feeling ashamed to appear before these gentlemen with only two brace, I quietly turned about and walked in another direction,—they had fired at least twenty shots, and from their "reputation" I concluded must have bagged nearly as many birds. Some days after, however, I happened to meet one of the gentlemen, and did not tell him of the result of my day's sport until I had ascertained that his party had, with a score of shots, only succeeded in bagging "one bird." I have since then been a firm believer in the uncertainty of Ruffed Grouse shooting and can confidently recommend this sport to any one ambitious to acquire the reputation of being considered a "crack shot."—WALLACE.

LOBSTER CULTURE.

The subject of Lobster culture has taken up the attention of Prof. S. F. Baird and the Fish Commissioners of the State of Maine. The Professor says :—

"There is a very great promise of success in cultivating lobsters on a large scale by inclosing them in small salt water bays, where there is a free circulation of water, and the egress of the lobsters can be prevented by grating or netting. They can be fed, as I understand, very largely upon clams, and will not only grow very rapidly under such circumstances, but carry on the propagation of the young. The young can either be kept in the inclosure or go out to sea and increase the supply in the vicinity. This is, by far, the most feasible way of solving the problem in regard to the depletion of lobsters along the coast of Maine and the Provinces. Is there any provision in the fishery laws of Maine by which an individual undertaking this work can prevent unauthorized persons from going in and reaping the benefit when the individual cultivator actually owns or leases the adjacent shore? Of course no man will be willing to go into the business unless he can be protected, and if there is no provision in Maine, as there is in Massachusetts, by which the Fish Commissioners can lease a pond to particular individuals for the purpose of propagating fish and secure to them thereby exclusive rights in the waters, it would be well to have such a provision, with the understanding that it is to apply to salt waters as well as to fresh. If the experiment proves as successful as I confidently anticipate and believe it will be, it will add enormously to the resources of the State, as there are hundreds of localities where such ponds could be established to the best advantage. Of course I suggest no interference with high seas navigation."

In the September and October numbers (Vol. I.) of this journal, we made a few remarks on the Canadian Lobster Fisheries. It may be further stated in connection with the subject, that in consideration of the extent of this industry in our Maritime Provinces, it would be well for those engaged in the business to consider the propriety of cultivating the lobster, as suggested by Professor Baird. There are many available localities along the Gulf seaboard where the cultivation of this valuable *crustacean* can be carried on with success. For instance, the Bay of Gaspé, and and at several places on the coast near Percé and Bonaventure. Prince Edward Island has also many excellent sites for this object.

Then, where can they be more profitably cultivated than on Anticosti? The numerous bays around the island are, at this day, teeming with them, and we are pleased to learn that a Company from New Brunswick is to take advantage of this fishery next season.—C.

THE ENGLISH SPARROW.

This European introduction, which at one time was looked upon with so much favour, is now pretty generally regarded as a pest; careful observations made during recent years having proved conclusively that these birds possess few redeeming qualities to compensate for the great amount of damage they are credited with doing. The Colony of Australia appears to realize the serious disadvantages of their introduction, their increase there has been so rapid, and their depredations so marked, that they are now considered an equal nuisance with the imported rabbit, and in that prolific land will probably be as difficult to get rid of. The Australian Government has lately offered a bounty of sixpence per dozen for the heads, and two and sixpence per hundred for the eggs, which will probably have the effect of reducing their numbers.

Here, in Canada, our severe winters have, to a certain extent, checked their increase, but they are in some places already too numerous, and ere many years will, no doubt, multiply to such an extent that we, also, may be obliged to adopt some means for their extermination.—WALLACE.

NEW BRUNSWICK SALMON RIVERS.

THE RIGHT TO FISH FOR SALMON.

A landowner, named Phair, was arrested while fishing with rod and line for salmon in the Miramichi river, opposite his own property. The arrest was made by W. H. Venning, the Inspector of Fisheries for New Brunswick. Phair refused to give up his fishing rod, &c., to the officer, but he yielded

when Venning presented a revolver. Phair brought an action for damages for the seizure of his tackle, and the suit was brought before the Circuit Court of Fredericton. The attorney for the Government moved for a nonsuit, on two grounds; first, that the defendant was acting in the capacity of a Justice of the Peace, and was entitled to one month's notice of action; and second, that the plaintiff was illegally fishing. The judge overruled both these objections, and charged in favour of the plaintiff on points of law, but he disagreed on the matter of damages. The jury, however, decided to award \$511. The Government or the Chief of the Fishery Department, with the consent of the Privy Council, should recognize riparian rights in navigable or unnavigable rivers where fish occur. It will save money and litigation, and the earlier this annoyance is abated the better for both parties.—C.

INTERNATIONAL FISHERIES EXHIBITION.

The approaching Fisheries Exhibition to be held in Edinburgh, Scotland, next April, will be open to all countries. It is under the patronage of the Duke of Edinburgh and the Highland Agricultural Society of Scotland. It will include everything connected with or as an illustration of the fisheries of the world. The exhibits are to be divided into twelve classes, embracing models of boats; of fishing-boat harbours and fishermen's houses; nets, lines, rods, artificial bait, tackle, piscicultural apparatus, fish ova, and young fry; stuffed fish and aquatic birds; paintings and casts of fish models, of fish passes and ladders; life boats, fishermen's dress and equipments; specimens of fresh, cured and canned fish; samples of preparation for preserving fish and specimens of such results; models and other means of illustrating the life, habits and social condition of those engaged in the fisheries; treatises on the pollution of rivers and the best means of remedying the evil. A loan collection will be included, and the Asso-

ciation will pay all charges of transportation in connection with this branch. There can be no doubt that the exhibition will be a most interesting one and will command widespread interest and attention.

PRINCE EDWARD ISLAND FISHERIES.

There has been a falling off in the catch of Mackerel, Cod and Herring this year, and the Salmon taken by the islanders are not worth reporting. Mackerel canning has become quite an industry, the annual average number of cans being about 200,000 put up on the Island. Of Lobsters 6,832,865 cans were filled this year. There is a reason for the present scarcity of Salmon in the Gulf of St. Lawrence. Why is it that from all portions of the North and South coasts we have reports regarding the rarity of this noble fish during the past three seasons? Cannot some one help us to discover the cause?

THE COMMON DOVE.

(*Zenaidura Carolinensis*.)

We have received the head, wings and tail of a specimen of the above bird shot by Mr. Comeau at Godbout, on the north shore of the Lower St. Lawrence. The occurrence of this Dove so far north is another illustration showing that as the Canadian climate gradually moderates, many birds which were heretofore in a great measure, confined to southern and western regions, will, eventually change their ranges of migration. If we had a few more close observers like Mr. Comeau, doubtless other rare species would be discovered visiting our northern forests.—C.

FISH AND GAME PROTECTION CLUB OF THE PROVINCE OF QUEBEC.

TWENTY-THIRD ANNUAL MEETING.

Mr. G. H. Mathews, Secretary of the Club, presented the annual report, from which it appeared that the Club had done good work during the past year, and was now in a flourishing condition.

From this report it appeared that the Club had commenced the year with a deficit of \$61.13; receipts during the year had been \$361.20; expenditure, \$251.21; balance on hand, \$43.86. The membership stood as follows at the end of the respective years:—1878, 30; 1879, 93; 1880, 101; 1881, 176.

The report was adopted.

The election of officers was then proceeded with, resulting as follows, viz.:—President, Ald. J. C. Wilson, re-elected; Vice-President, Mr. E. C. Monk, re-elected; Treasurer, Mr. W. H. Rintoul, re-elected; Secretary, Mr. G. H. Mathews, re-elected. Committee—Messrs. F. J. Brady, R. H. Kilty, H. R. Ives, I. H. Stearns, B. Goodacre, A. N. Shewan, L. A. Boyer, Selkirk Cross, Wm. Crowther, Chas. Stimson, W. S. Macfarlane, Fred. Henshaw, Jas. Appleton, Hon. J. R. Thibault and Alderic Deschamps.

A Committee, consisting of the officers and members of the Club, was then appointed, with power to add to their number, to make arrangements for a picnic during the coming summer.

ORNITHOLOGY OF THE ISLAND OF MONTREAL.

BY ERNEST D. WINTLE.

The following list of birds, frequenting the Island of Montreal, has been prepared chiefly from observations made by the writer, extending over a period of several years. It is probable that a few species have escaped notice, as many remain only a short time on the island during their migrations north and south.

TURDIDÆ.—THRUSHES.

1. *Turdus migratorius*, Robin. Common. Arrives in March. Nests in May, June and July.
2. *Turdus mustelinus*, Wood Thrush. Common. Arrives in May. Nests in May and June.
3. *Turdus Pallasi*, Hermit Thrush. Rare. Arrives in May. Nests in June.
4. *Turdus Swainsoni*, Olive-backed Thrush. Rare. Arrives in May. Nests in June.
5. *Turdus fuscescens*, Wilson's Thrush. Common. Arrives in May. Nests in June.
6. *Mimus Carolinensis*, Catbird. Common. Arrives in May. Nests in June and July.
7. *Harporhynchus rufus*, Brown Thrush. Becoming numerous. Arrives in May. Nests in June.

SAXICOLIDÆ.—STONE CHATS AND BLUEBIRDS.

8. *Sialia sialis*, Eastern Bluebird. Common. Arrives in March. Nests in May, and raises two broods.

SYLVIIDÆ.—SYLVIAS.

9. *Regulus calendula*, Ruby-crowned Kinglet. Arrives in April. Abundant in spring and autumn.

10. *Regulus satrapa*, Golden-crested Kinglet. Arrives in April. Abundant in spring and autumn.

PARIDÆ.—TITMICE, CHICKADEES.

11. *Parus atricapillus*, Black-capped Chickadee. Not very common. Breeds on the Island.

SITTIDÆ.—NUTHATCHES.

12. *Sitta Carolinensis*, White-bellied Nuthatch. Winter and summer resident. Nest, 20th April, with 9 eggs.

13. *Sitta Canadensis*, Red-bellied Nuthatch. Winter and summer resident. Nests in April.

14. *Certhia familiaris*, Brown Creeper. Not common. Arrives in April. Nests in May.

TROGLODYTIDÆ.—WRENS.

15. *Troglodytes aedon*, House wren. Not common.

16. *Anorthura hyemalis*, Winter Wren. Not common. Arrives in April. Breeds on the Island.

ALAUDIDÆ.—LARKS.

17. *Eremophila alpestris*, Shore Lark. Nest found beginning of April with young; snow on ground, Abundant in autumn.

MOTACILLIDÆ.—WAGTAILS.

18. *Anthus ludovicianus*, Titlark. Abundant in spring and autumn.

SYLVICOLIDÆ.—WARBLERS.

19. *Mniotilta varia*, Black and white Creeper. Common. Arrives early in May. Nests in June.

20. *Parula Americana*, Blue yellow-backed Warbler. Arrives early in spring.

21. *Dendroica aestiva*, Summer Warbler. Common. Arrives in May. Nests in June.

22. *Helminthophaga chrysoptera*, Blue golden-winged Warbler. Arrives early in spring.

23. *Dendroica virens*, Black-throated green Warbler. Arrives early in spring.

24. *Dendroica ceruleascens*, Black-throated blue Warbler. Arrives early in spring.

25. *Dendroica coronata*, Yellow-rumped Warbler. Arrives early in spring.

26. *Dendroica Blackburniae*, Blackburnian Warbler. Arrives early in spring.

27. *Dendroica striata*, Black-poll Warbler. Arrives early in spring.

28. *Dendroica castanea*, Bay-breasted Warbler. Arrives early in spring.

29. *Dendroica Pennsylvanica*, Chestnut-sided Warbler. Arrives in May. Nest 11 June, 3 eggs and 1 cowbird's egg, all incubated.

30. *Dendroica maculosa*, Black and yellow Warbler. Arrives early in spring.

31. *Dendroica pinus*, Pine-creeping Warbler. Arrives early in spring.

32. *Seiurus aurocapillus*, Golden-crowned Thrush. Common. Arrives in May. Nest, 5 June, 4 eggs.

33. *Geothlypis trichas*, Maryland yellow-throat. Common. Arrives in May. Nests in June.

34. *Geothlypis Philadelphia*, Mourning Warbler. Arrives early in spring.

35. *Myiiodictes Canadensis*, Canadian Fly-catching Warbler. Arrives in May. Breeds here.

36. *Setophaga ruticilla*, Redstart. Common. Arrives in May. Nests in June.

TANAGRIDÆ.—TANAGERS.

37. *Pyrranga rubra*, Scarlet Tanager. Not common. Arrives in May.

HIRUNDINIDÆ.—SWALLOWS.

38. *Hirundo horreorum*, Barn Swallow. Common. Arrives in May. Nests in June.

39. *Tachycineta bicolor*, White-bellied Swallow. Common. Arrives in April. Nests in May and June.

40. *Petrochelidon lunifrons*, Eave Swallow. Arrives in May. Nests in June.

41. *Cotyle riparia*, Bank Swallow. Common. Arrives in May. Nests in May and June.

42. *Progne purpurea*, Purple Martin. Common. Arrives in May. Nests in June.

AMPELIDÆ.—WAXWINGS, ETC.

43. *Ampelis garrulus*, Bohemian Waxwing. Rare visitant.

44. *Ampelis cedrorum*, Cedar bird. Common summer resident, occasionally seen during winter. Nests in July.

VEREONIDÆ;—VIREOS, OR GREENLETS.

45. *Vireo olivaceus*, Red-eyed Vireo. Common. Arrives in May. Nests in June.

LANIIDÆ.—SHRIKES.

46. *Lanius borealis*, Great Northern Shrike. Occasionally seen during winter. Nests found in May.

47. *Lanius ludovicianus*, Loggerhead Shrike. Has been shot here.

FRINGILLIDÆ.—FINCHES, ETC.

48. *Pinicola enucleator*, Pine Grosbeak. Autumn and winter visitant.

49. *Carpodacus purpureus*, Purple Finch. Not common. Arrives in May. Nests late in June.

50. *Loxia leucoptera*, White-winged Crossbill. Not common. Summer and winter resident. Nests end of March.

51. *Loxia curvirostra*, Common Crossbill. Autumn and winter visitant.

52. *Egiothus linaria*, Red-poll Linnet. Autumn and winter visitant.

53. *Chrysomitris pinus*, Pine Linnet. Arrives early in spring.

54. *Chrysomitris tristis*, American Goldfinch. Common. Arrives in May. Nests in July.

55. *Plectrophanes nivalis*, Snow Bunting. Autumn and winter visitant.

56. *Poocetes gramineus*, Grass Finch. Common. Arrives in May. Nests end of May.

57. *Melospiza palustris*, Swamp Sparrow. Not common. Arrives in May. Nests in June.

58. *Melospiza melodia*, Song Sparrow. Common. Arrives in April. Nests in May, June and July.

59. *Junco hyemalis*, Snowbird. Common. Arrives in April. Nest, 15 June, 2 eggs.

60. *Spizella monticola*, Tree Sparrow. Not common.

61. *Spizella socialis*, Chipping Sparrow. Common. Arrives in May. Nests in June and July.

62. *Spizella pusilla*, Field Sparrow. Arrives early in Spring.

63. *Zonotrichia albicollis*, White-throated Sparrow. Not common. Arrives early in spring. Nests in April.

64. *Zonotrichia leucophrys*, White-crowned Sparrow. Not common. Arrives early in spring.

65. *Passer domesticus*, English Sparrow. Abundant. Nests very early in spring, and throughout the summer.

66. *Goniaphea ludoviciana*, Rose-breasted Grosbeak. Rare, spring visitant.

67. *Cyanospiza cyanea*, Indigo bird. Common. Nests in June and July.

ICTERIDÆ.—AMERICAN STARLINGS.

68. *Dolichonyx oryzivorus*, Bobolink. Common. Arrives early in spring. Nests in May.

69. *Molothrus ater*, Cowbird. Common. Arrives in April. Have found its eggs in nests of Phoebe, Wood Thrush, Redstart, Summer Warbler, Chestnut-sided Warbler, and Song Sparrow.

70. *Agelaius phoeniceus*, Red-winged Blackbird. Common. Nests in May and June.

71. *Icterus Baltimore*, Baltimore Oriole. Become common. Arrives in May. Nests in June.

72. *Scolecophagus ferrugineus*, Rusty Grackle. Spring and autumn visitant.

73. *Quiscalus purpureus*, Crow Blackbird. Common. Arrives in April. Nests in May.

CORVIDÆ.—CROWS, JAYS, ETC.

74. *Corvus Americanus*, Common Crow. Arrives in March. Nests in April. A few usually remain throughout the winter,

75. *Cyanurus cristatus*, Blue Jay. Autumn visitant.

76. *Perisoreus Canadensis*, Canada Jay. Autumn visitant.

TYRANNIDÆ.—FLYCATCHERS.

77. *Tyrannus Carolinensis*, Kingbird. Common. Arrives in May. Nests in June.

78. *Myiarchus cinetus*, Great crested Flycatcher. Common. Arrives in May. Nests in June.

79. *Sayornis fuscus*, Phoebe. Common. Arrives in April. Nests in May.

80. *Contopus borealis*, Olive-sided Flycatcher. Not common.

81. *Contopus virens*, Wood Pewee. Common. Arrives in May. Nests in June.

82. *Empidonax flaviventris*, Yellow-bellied Flycatcher. Not common.

CAPRIMULGIDÆ.—GOATSUCKERS.

83. *Antrostomus vociferus*, Whip-poor-will. Rare visitant.

84. *Chordeiles Virginianus*, Nighthawk. Common. Arrives 15th May. Nests end of May on gravelled roofs of houses in the city.

CYPSELIDÆ.—SWIFTS.

85. *Chaetura pelagica*, Chimney Swift. Common. Arrives in April. Nests in May, in chimneys of houses in the city.

TROCHILIDÆ.—HUMMINGBIRDS.

86. *Trochilus colubris*, Ruby-throated Hummingbird. Common. Arrives early in May. Nests end of May.

ALCEDINIDÆ.—KINGFISHERS.

87. *Ceryle alcyon*, Belted Kingfisher. Common. Arrives in April. Nests in May.

CUCULIDÆ.—CUCKOOS.

88. *Coccyzus erythrophthalmus*, Black-billed Cuckoo. Common some seasons, and scarce others. Nests end of May.

89. *Coccyzus Americanus*, Yellow-billed Cuckoo. Very rare, only one specimen is recorded to have been shot.

PICIDÆ.—WOODPECKERS.

90. *Hylotomus pileatus*, Pileated Woodpecker. Rare autumn or winter visitant.

91. *Picus villosus*, Hairy Woodpecker. Regular spring and autumn visitant. Occasionally seen in summer.

92. *Picus pubescens*, Downy Woodpecker. Common. Winter and summer resident. Nests end of May.

93. *Picoides arcticus*, Black-backed Woodpecker. Casual visitant.

94. *Sphyrapicus varius*, Yellow-bellied Woodpecker. Common. Nests in May and June.

95. *Melanerpes erythrocephalus*, Red-headed Woodpecker. Not common. Nests in May.

96. *Colaptes auratus*, Golden-winged Woodpecker. Common. Arrives in April. Nests in May.

(TO BE CONTINUED.)

Correspondence.

ROBINS AGAIN.

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST :—

SIR,—The October number of your journal having failed to reach my hands until to-day when, through your politeness, I received a supplementary copy, I have only just read John H. Garnier's letter on "Robins again," which appears in that impression. With the courtesy which pervades the whole of his communication he remarks that he is "surprised and sorry to see such ignorance exhibited by me," but he does not favour me by specifying the nature of that ignorance. I gather, however, from his very rambling letter, that he imagines I have confounded the English Redbreast with the American Robin. I need not assure you, Sir, that I did nothing of the kind, and that the accusation of ignorance is as gratuitous as it is unmannerly. As John H. Garnier, however, has thought fit to prefer this accusation against me, I may perhaps be permitted to counsel that person, before he hazards such a charge again, to be a little more careful in respect of his own communications. For instance, I would recommend him to study English grammar a little, and I would advise him to make himself acquainted with the phraseology of *sportsmen*, and not speak of "a pair of rabbits;" and above all, I would suggest that when he quotes Latin he would get some one who knows a little of that language to scrutinize his quotation, and then perhaps he will not make Sallust appear to have been as unfamiliar with the Latin grammar as he evidently is himself. I might have answered his letter more at length but that his style of writing is not such as to make any gentleman desirous of entering into a paper controversy with him. His pen does not want the "additional vim" with which

he threatens me, without, however, alarming me, but it certainly *does* require a little additional culture.

VINCENT CLEMENTI.

Peterboro, January 12, 1882.

NOTE.—With the above letter from Mr. Clementi we must now close our columns to any further correspondence on this subject.—Ed.

THE MESSINA QUAIL.

DEAR SIR,—From the extensive orders sent to Sicily, for migratory quail, it is evident that earnest efforts will be made next spring to introduce and naturalize in Canada this valuable bird. Col. Rhodes, who takes a lively interest in the success of the scheme, now absent from the city, has forwarded me the enclosed directions for keeping quail in confinement, previous to letting them loose in our woods. I crave a corner in your journal for their insertion.

J. M. L.

Quebec, Jan. 20, 1882.

QUAIL IN CONFINEMENT.

To Editor *Forest and Stream* :

Having kept quail in confinement several seasons for stock, I will give my experience. I make a square coop large enough to keep from eight to ten pairs. Two-thirds of the way I put in a partition, with a hole in centre of this partition large enough for them to run through into the rear part. This hole contains a slide-door from top on outside, so that the birds can be shut in while cleaning the front, and *vice versa*. The front is made entirely of slats, placed so near that they cannot get their heads through to injure them. The back part is made quite dark, with door for cleaning; in front part is a trough to slide, with end projecting so as to give fresh water *often*. They require their dust bath in confinement every day. This I provided for by sweeping very dry dirt from some sunny places about a shed, placing it in the front part of the coop. For feed, oats, buckwheat and wheat screenings, given alternately. I made my coops six (6) feet long, four feet wide and two high. Top is of boards with holes bored in. These coops two men carry every morning into a warm sunny place, and at night they are returned into a building and placed on stools as high as convenient, and are made to stand well out from the side of the building.

The legs of bench should be covered with tin or something to prevent rats or mice getting at the birds. In the above manner I have kept them without losing a single bird.

WARREN LOWE.

West Haven, January 6, 1882.

NOTE.—The introduction of these Quail into Canada has not yet been a success; most of the birds having been liberated late in the season. Some few broods were reared, but it has not yet been proved whether any returned during the following spring. Further efforts are now being made by keeping the birds in confinement during winter and liberating them as early as possible in spring; a better opportunity will then be afforded them of maturing their young. A gentleman of this city has had a number in confinement during last year and experienced no difficulty in keeping them.

• THE RED CROSSBILL.

(*Loxia curvirostra*.—LIN.)

As comparatively little is known of the history of the Crossbills, I send a statement of my observations. About twenty years ago the above species was a common resident in this vicinity. During the months of December and January they gathered in small flocks, and evidently commenced to pair. Occasionally I have seen the white-winged species, but these never associated with their congeners. Every one is familiar with the peculiar flight of the yellow bird (*Chrysomitris tristis*) during the nuptial season. Exactly in a similar manner the red Crossbill spreads its wings and tail, and flies in a fantastic manner on sunny days. The female, in the mean time, may be seen perched on some neighbouring sprig or prominent place seeming to enjoy the gambols of the male. Early in the morning they betake themselves to the hemlock, pine, or tamarac ridges, and may be seen at all altitudes and in all positions on the cones in search of food. Sometimes, head downwards, or holding with claws and bill directly beneath the cones, and tearing the seed from its covering with much ease. Their motions are graceful, and have nothing of the jerk peculiar to the Sittæ or Picoidæ.—About two o'clock, they fly to some neighbouring place to pick sand, and I have seen as many as two hundred at one time about ash heaps, on bare spots on the road, or

on the banks of a stream where they could obtain sand. They are harmless, familiar little birds, and are very quiet in their manners, as I never saw any encounters, nor those battles that so often occur among English sparrows and other finches. The nests are generally placed near the extremity of a hemlock or cedar branch, and are large and very thick for the size of the builder. They are variously lined with bits of small roots, fibres of vegetables, hair, feathers and the like, but of course vegetable fibres predominate. I have frequently seen the head and a little portion of the tail of the bird project over the side of a nest, when on, or nearly on a level, but never from below. Although I saw numbers of nests, I never obtained any eggs. The fact is I never tried, as the thought did not at the time occur to me. I, however, obtained many fine and beautiful specimens, of *L. curvirostra* as well as *L. leucoptera*. These birds breed early in March or towards the end of January and during February. I am unable to state exactly how many eggs they lay, nor the period of incubation. On the 24th of March, 1862, I saw a female crossbill feeding her young; there were four of them, closely huddled together on a maple twig. I shot three of them, the fourth and the old bird escaping seemingly unhurt. I carefully examined the young; they were of a greenish brown color, and there was down on the ends of their feathers, especially on the head and back. The tail was more than half grown, and the flight of the young bird that escaped, seemed very strong. The bills of the young were not in the least crossed, and this proves that the beaks take this form as they arrive at maturity; the appearance was like that of any young finch. It strikes me, their bills were too tender to procure food, and that the parents fed them for a longer period than is general in the finch family. But since that period the axe has done its work. We find no more of this species in the neighbourhood as it has little to live on. Occasionally in Spring before the foliage comes on the trees, families of five or six pass around, but every year they are becoming more scarce, and I have neither heard nor seen one for four or five seasons past. The nest, is, as has been stated, very thick, compact, and large; nature has taught the bird so to construct it, as otherwise the eggs and young birds would be frozen. The crops of the three procured were quite distended with hemlock seeds. The external covering in every case was removed and each

seed was bruised, and covered with a peculiarly glutinous fluid, either so given by the old bird, or produced in the crop of the young ones; perhaps as in parent parrots. Although these birds chirp continually while on the wing, yet I never recollect hearing them sing, and they are very silent when on the ground and when feeding on trees. But, the moment a note of alarm is given, they rise altogether with much noise, and after flying about for a moment, to see that danger has passed, they settle down, frequently on the same tree, in perfect silence, seeming intent in procuring food. The peculiarity of the bill, is wonderfully designed to open the scales of fir cones, on which this family feeds, and this point has been discussed by abler pens. But though one is sad to know that they are very seldom seen in this locality, yet noble farms and happy homes take the place of the wild woods where these birds formerly had their habitation. It seems remarkable that crossbills should breed so early in the year. It is not at all strange in any of these months, to see the thermometer frequently below zero. Their food is at this time abundant, and continues so until summer, and it seems improbable that food supply is the cause of such early incubation. These statements are true, but why this little bird breeds during the coldest period of a Canadian winter, who can tell? Mr. Maynard in his "Naturalists' Guide," mentions a gentleman in Maine who obtained the eggs. This Naturalist, whose name I forget, also avers that he procured the eggs in February, and if I only had such a chance as in 1862 to collect, I would certainly lay past a large store of them. Crossbills are indifferent to cold, and I have observed them, in a heavy snow storm, feeding with great composure. I have seen them in considerable numbers in Beverly township near Hamilton. I presume they migrate north in summer. I never remember seeing them before December, nor after the beginning of May. I should like to see the observations of others on the life history of this species, especially any theories or facts that might help to elucidate the cause of its winter incubation. I have heard parties deny that the crossbill or any other little bird could incubate so early, but this is because they have not had the opportunity to prove it as I have; and, I confess, I was skeptical till I saw the birds, both male and female incubating, and obtained the young.

J. H. GARNIER.

LUCKNOW, January, 1882.

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THE CANADIAN SPORTSMAN AND NATURALIST.

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MONTREAL, MARCH, 1882

VOL. II

WILLIAM COUPER, Editor.

A COMPARISON OF THE GAME LAWS OF ONTARIO AND QUEBEC.

The growing scarcity of many of our game birds and quadrupeds is a matter of great interest to sportsmen, all of whom should unite in their efforts to prevent this diminution. That the extension of the period of our close seasons would be of great benefit, we do not think will be denied, and no true sportsman should object to a curtailment of his privileges, in this respect, when the object to be attained will ultimately be the means of providing him with increased pleasure. There is a marked difference in the protection afforded by the Game Laws of Ontario and Quebec, and the assimilation of some of the close seasons could not fail to be of benefit to this Province.

A synopsis of the Game Laws of the two Provinces shows the close seasons to be as follows:—

	ONTARIO.	QUEBEC.
Deer and Caribou..	15 Dec. to 1 Oct.	1 Feb. to 1 Sept.
Moose.....	do	do
Grouse Ptarmigan, } &c.	1 Jan. to 1 Sept.	1 March to 1 Sept.
Wild Turkey and } Quail	1 Jan. to 1 Oct.	
Woodcock.....	1 Jan. to 1 Aug.	1 March to 1 Sept.
Snipe.....	1 Jan. to 15 Aug.	1 March to 1 Sept.
Mallard, Gray Duck } Black Duck, Wood } Duck	1 Jan. to 15 Aug.	West of Three Rivers 1 May to 1 Sept.
Other Ducks.....	1 May to 15 Aug.	East of Three Rivers
Swans and Geese... }	do	15 May to 1 Sept.

Thus, in Ontario, Virginian deer and Moose are protected from 15th December, although the open season is one month later than in Quebec, the wisdom of this is apparent from the fact that these animals fall an easy prey to the hunter in winter, especially in the month of January, when the deep snow and the crust formed by the frost and sun, prevent their escape; the Caribou, however, from its lighter weight and the peculiar

formation of its hoofs is enabled to move very rapidly through deep snow, and is seldom run down by the hunter. Ruffed Grouse are protected from 1st of January in Ontario, while our open season extends until 1st March; the long winter affording the *habitant* an opportunity to try his hand at snaring, as he has seldom anything else to occupy him at this time of year. It is well known that the greater number of these birds with which our markets are supplied, are procured by this means, and it is hardly possible to obviate this, except by making winter a close season. Ruffed Grouse are very easily snared, and to the depredations of the market hunters alone, must the scarcity of these birds be attributed. The Fish and Game Societies of the Province of Quebec have been endeavouring to obtain an amendment to the Act for the Protection of Game, prohibiting the spring shooting of ducks. This is a much needed reform, as from a statement submitted by the Secretary of the Montreal Club, no less a number than 1000 brace of Black Duck were exposed for sale in the Montreal markets last spring. These birds, as well as Mallard, Wood Duck, &c., are protected during the spring in Ontario, and we cannot understand how our Government should tolerate such a destruction in the breeding season. If our legislators are not sportsmen, they should, at least, have a slight knowledge of political economy, and recognize that game is one of the resources of the country, which should be conserved like any other product. A bill to abolish spring shooting was presented last session, but owing to the opposition which it received, was withdrawn; we trust, however, it will not be abandoned and that when again presented, both parties in the House may unite in passing this much needed amendment. The great difficulty with all game laws is to secure their proper observance, especially in remote sections of the

country. If it were possible to prevent the snaring of Ruffed Grouse, the present protection would, no doubt, be ample; as it is, however, the *habitants* pursue their work of trapping unmolested, and the only feasible way of stopping this would seem to be by prohibiting the sale of these birds after a specified time; the law would not then be violated to such an extent as the market hunters would not be able to dispose of their game and would in consequence restrict their efforts to obtaining a supply sufficient for their own use.—WALLACE.

THE DESTRUCTIVE BRUSH WEIRS.

That there is cause for the decrease of Salmon along the shores of Nova Scotia, New Brunswick and the tributaries of the St. Lawrence, cannot be denied. They have steadily decreased in these waters since 1841. The blame for paying high prices for this wholesome food, must rest on the shoulders of the Government, who have allowed the inhabitants residing along the sea-board to erect "Stake or Barrier Nets" and "Brush Weirs." The "Stake-Net" is a Scotch invention introduced into Canada about the year 1818, and they have been found effective modes of capture, by intercepting the fish in their approaches to the rivers. They are formed of strong netting attached to "Stakes" driven into the shore, and these nets extend from high to low water mark; thus placed before the course of the fish on their way to the breeding grounds. The "Stake-Net" terminates in a chamber or trap from which there is no escape. The "Brush Weir" is more destructive; composed of wicker-work or brush-wood, it also has a chamber with a narrow entrance wherein all kinds and sizes of fish are caught at the ebb of the tide. These destructive traps are self-acting, working night and day. Although the fishery regulations require an open space to be made in the lower part of the chamber to be covered with net-work to

admit the passage of small fishes, the provision is defeated by quantities of seaweed and other floating substances which close the netting at every tide. We advise the Government to destroy every one of these watling fences at once and forever. "Stake-Nets" should be absolutely abolished in the Lower St. Lawrence. In 1841, Salmon were abundant; 50,000 being the annual catch on one of the Labradorian rivers, and during the latter year, 1,800 Salmon were taking during one tide at Tadousac. Other rivers along the Lower St. Lawrence were then equally productive, but the "Weirs" and "Stake-nets" extended rapidly, and since then Salmon, Shad, Cod, Herring, Striped and Sea-Bass have been annually destroyed by "Brush Weirs." These engines when first placed in Scottish and Irish waters, produced profitable returns to the Weir-holders; but, during this time, destructive results so far as regarded the propagation of Salmon. The British Government became alarmed, and a scientific commission was appointed to make enquiry as to the cause. The following is an extract from the Report of Sir William Jardine, one of the Commissioners. It speaks for itself.—

"In adverting to the evil done to the Fisheries by the use of these fixed barriers, and in pointing out the course believed to be indispensable to preserve what remains of these Fisheries, may be interfering with the gains of a few, who, in large estuaries or other favored localities, still reap a precarious harvest from their use; but I hold it to be due to the public that the destruction caused by the modes of fishing hitherto and still practised should be frankly indicated without regard to the private gains of any individual. There is no doubt that the longer these obnoxious Engines are permitted to exist the more difficult will be their removal. The instances in older countries of the destitution, the riots, the bloodshed and loss of life caused by these nuisances to fishing and navigation ought to be a warning to us."

Here in Canada, we have a Fishery Department which is cognizant of the fact that these "Brush Weirs" are annually a source of

profit to the owners; and, furthermore, it is aware that these traps destroy millions of young fish at every tide and no action has been taken to abolish them, or stop their increase. Why should this be allowed any longer? We have Salmon rivers in the three Provinces mentioned, which were heretofore unequalled on this earth,—rivers which by expending a small amount on each, would ultimately produce a large return to those who would lease them—that would be annually a source of large revenue to the country. We are determined not to lose sight of this subject, and shall keep the matter before the public until we see justice done. We call for the destruction of "Brush Weirs," as they are the worst enemies of the young of fishes inhabiting the saline waters in the Gulf of St. Lawrence. They look ugly, adding no natural feature to a maritime view; are dangerous to navigation, and the sooner they are destroyed the better for the fish and the country.—C.

ORNITHOLOGICAL QUERIES.

The Sparrow Owl, *Nyctale Richardsonii*, Bonaparte. We want accurate information regarding the nest of this owl. Does it lay its eggs in a tree cavity, or on the ground? Has it been found nesting in Canadian forests south of the parallel of 50° north latitude? Mr. Vennor wrote to the Montreal *Witness*, some time ago, that he discovered its nest on the ground near one of our northern rivers.

The Saw-Whet Owl, *Nyctale Acadica*, Bonaparte. The nest of this species has been found in Nova Scotia, but its nesting habits do not agree with the above Genus. Did anyone find its nest in the woodlands of Quebec or Ontario? The eggs of these two species are *desiderata* in Oölogical cabinets.

The Snowy Owl, *Nyctea nivea*, Gray. In accordance with the severity of the weather, this owl comes down to latitude 42° about the end of December, remaining about the fields and woodlands until the middle of February, if the temperature is mild. This bird has been seen in summer on the mountain regions on the Upper Godbout, where they are supposed to breed. We wish to obtain additional observations regarding the summer habits of this species.

The Hawk Owl, *Surnia ulula*, Bonaparte. Arrives about latitude 46° in October and November, sometimes in great numbers. We want some definite knowledge respecting the nesting localities of this species. Has its nest been found in Canada? Mr. Henry Reeks, F.L.S., an Ornithologist who remained two years on Newfoundland, says that it is, perhaps, the most common owl on the island, remaining there throughout the year. They occur abundantly along the southern coast of Labrador during the latter month, returning north as the weather moderates.

The Banded three-toed Woodpecker, *Picoides hirsutus*, Vieill. We have not yet noticed this bird in the Province of Quebec, but Mr. Reeks says that although not common, it is non-migratory on the Island of Newfoundland. We have found the nest of its congener *P. arcticus* on the 3rd of June, about two degrees north of Montreal; and, doubtless the nest of *P. hirsutus* may be obtained during the latter month in Newfoundland. Its discovery would be a rare prize to the Oölogist.

The Striped three-toed Woodpecker, *Picoides dorsalis*, Baird. I found one specimen of this species north of the City of Quebec, and it is probable that it breeds in the same latitude as *P. arcticus*. Can any Ornithologist give additional information regarding its summer habitat?

The Whip-poor-Will, *Antrostomus vociferus*, Bonaparte. Occurs rarely in the Province of Quebec. I heard its call on a mountain adjacent to Lake Beauport, near Quebec, which is probably its most northern range. Has its nest been found in latitude 45°?

The Winter Wren, *Troglodytes hyemalis*, Vieill. Has the nest of this delightful songster been found in the Province of Quebec? Mr. Reeks says it is common, and a resident throughout the year in Newfoundland. I have seen it on Mount Royal in spring, but could not discover the nest. I saw it also at Godbout, on the Lower St. Lawrence in June, where it doubtless breeds.

The Red-bellied Nuthatch, *Sitta Canadensis*, Linn. This bird is common in our woods in spring; has the nest been discovered in New Brunswick, Ontario or Quebec?

The Hudsonian Titmouse, *Parus Hudsonicus*, Forster. This Titmouse appears in latitude 56° about the beginning of October, generally in company with the Genus *Regulus* and *Pinicola*. On the approach of spring, the Hudsonian Titmouse returns to high latitudes

to breed. Mr. Reeks mentions it as common, and non-migratory in Newfoundland and Audubon, I believe, was the first lucky man who found the nest of this species. A youth residing at Godbout discovered the second, last year. Who will find the next? Now, that Newfoundland, is to be traversed by the iron horse, many facilities will be offered to reach the *habitat* of this and many other rare northern species. We are anxious to hear more of this Titmouse and its nest, which is so elaborately described by Audubon.

The Pine Grosbeak, *Pinicola Canadensis*, Briss. Mr. Reeks tells us that this Grosbeak, is common in Newfoundland throughout the year. It must, therefore, bring forth its young there. It ranges south to latitudes 43° or, probably, further in severe winters. Has the nest been discovered in Canada, or did anyone notice the bird in our forests during summer?

The Semipalmated or Ring Plover, *Agialitis semipalmatus*, Bonaparte. This beach bird breeds on Newfoundland. Did any Oölogist find its nest of late in Canada? They bred during Audubon's time, on the north coast of the Lower St. Lawrence.—C.

MONTREAL BRANCH, ENTOMOLOGICAL SOCIETY OF ONTARIO.

The eighty-seventh meeting of this Society was held at the residence of the President, H. H. Lyman, Esq., on the 7th January last.

Mr. G. J. Bowles, read a paper, entitled "The Pickled Fruit Fly," *Drosophila ampelophila*, Leow, giving a description of this curious insect, illustrated by drawings under the microscope of the larva and pupa, and specimens of the fly. It is of the same genus as the well-known "Wine Fly," and has somewhat similar habits.

A letter from W. H. Edwards, of Coalburgh, Virginia, was read, enquiring about the forms of *Lycæna lucia* found at Montreal. Many specimens of the butterfly were examined, and the conclusion arrived at that the commonest form at Montreal, was not the type, but a variety, intermediate between the type and *violacea*.

A large collection of rare and beautiful Sphingidae and other Lepidoptera were exhibited by the President.

The eighty-eighth meeting was held on 14th February, at the residence of the Secretary.

Mr. G. J. Bowles, read a paper on the "Genera *Hepialus* and *Sthenopsis*," noting the capture here last summer of a very rare moth, *H. thule*, Strecker, only one other specimen of which is known to be in collections.

Mr. J. G. Jack, exhibited some large larvæ, supposed to be *Hepialidæ*, still alive in their tunnels, bored in the roots of swamp-maple.

The President communicated some interesting particulars regarding *Callimorpha* and other Bombycidæ, which he had gathered during a recent visit to the museums in Boston.

Several boxes of Lepidoptera were exhibited, and some species new to this locality noted.

Thomas Craig, Esq., and W. W. Dunlop, Esq., were added to the roll of the Society at this meeting.

ORNITHOLOGY OF THE ISLAND OF MONTREAL.

BY ERNEST D. WINTLE.

(Continued.)

97. *Bubo Virginianus*, Great-Horned Owl. Autumn and winter visitant.

98. *Scops asio*, Mottled Owl. Autumn, and winter visitant.

99. *Otus vulgaris*, Long-eared Owl. Summer and winter resident; breeds here occasionally.

100. *Brachyotus palustris*, Short-eared Owl. Casual visitant.

101. *Syrnium cinereum*, Great gray Owl. A beautiful specimen was shot near the wheel-house on the 11th of February.

102. *Syrnium nebulosum*, Barred Owl. Autumn visitant.

103. *Nyctea nivea*, Snow Owl. Autumn, and winter visitant. One specimen shot opposite Nun's Island on the 11th of February.

104. *Surnia Hudsonica*, Hawk Owl. Winter visitant.

105. *Nyctale Richardsonii*, Richardson's or Tengmalm's owl. Winter visitant.

106. *Nyctale Acadica*, Acadian Owl. Winter visitant.

FALCONIDÆ (DIURNAL).—BIRDS OF PREY.

107. *Circus Hudsonius*, Marsh Hawk. Immature birds common. Adults very rare.

108. *Accipiter fuscus*, Sharp-shinned Hawk. Common.

109. *Astur atricapillus*, Goshawk. Rare visitant.

110. *Falco communis*, (anatum) Duck Hawk. Very rare visitant.

111. *Falco sparverius*, Sparrow Hawk. Not common.

112. *Buteo borealis*, Red-tailed Buzzard. Rare, 1 specimen shot in autumn of 1881.

113. *Buteo lineatus*, Red-shouldered Buzzard. Most common Hawk. Breeds in April.

114. *Buteo Swainsoni*, Swainson's Buzzard. Rare visitant.

115. *Buteo Pennsylvanicus*, Broad-winged Buzzard. Not common.

116. *Archibuteo lagopus*, Rough-legged Buzzard. Rare visitant in fall.

117. *Pandion haliaetus*, Fish Hawk. Rare visitant in summer.

118. *Haliaetus leucocephalus*, Bald Eagle. Rare visitant.

COLUMBIDÆ.—PIGEONS.

119. *Ectopistes migratorius*, Wild Pigeon. Not common. Spring and autumn visitant.

TETRAONIDÆ.—GROUSE, etc.

120. *Bonasa umbellus*, Ruffed Grouse. Abundant in food producing localities. Summer and winter resident. Nests in April.

CHARADRIIDÆ.—PLOVERS.

121. *Squatarola helvetica*, Black-bellied Plover. Spring and autumn migrant.

122. *Charadrius Virginicus*, Golden Plover. Spring and autumn migrant.

123. *Ægialitis vociferus*, Killdeer Plover. Not common. A few breed here.

124. *Ægialitis Wilsonius*, Wilson's Plover. Casual visitant.

125. *Ægialitis semipalmatus*, Semipalmated Plover, or Ringneck. Spring and autumn visitant.

126. *Ægialitis melodus*, Piping Plover, or Ringneck. Spring and autumn visitant.

127. *Ægialitis cantianus*, Snowy Plover. Rare visitant.

SCOLOPACIDÆ.—SNIFE, etc.

128. *Philohela minor*, American Woodcock. Arrives beginning of April; a few pairs remain throughout the summer and probably breed here.

129. *Gallinago Wilsoni*, Wilson's Snipe. Spring and autumn visitant.

130. *Macrorhamphus griseus*, Red-breasted Snipe. Spring and autumn visitant. Rare.

131. *Tringa minutilla*, Least Sandpiper. Spring and autumn visitant.

132. *Tringa macdata*, Pectoral Sandpiper. Spring and autumn visitant.

133. *Totanus flavipes*, Yellow-shanks. Spring and autumn visitant.

134. *Totanus solitarius*, Solitary Tattler. Spring visitant.

135. *Totanus melanoleucus*, Greater Tell-tale. Rare in spring; the young common in autumn.

136. *Tringoides macularius*, Spotted Sandpiper. Summer resident. Nests beginning of June.

ARDEIDÆ.—HERONS.

137. *Ardea herodias*, Great Blue Heron. Spring and summer visitant. Young common in the fall.

138. *Nycticorax nycticorax*, Night Heron. Summer resident. Nests end of May on Nun's Island, above Victoria bridge.

139. *Botaurus minor*, Bittern. Summer resident. Nests end of May.

RALLIDÆ.—RAILS, etc.

140. *Rallus elegans*, Fresh-water Marsh Hen. Summer resident. Nests beginning of June.

141. *Rallus Virginianus*, Virginia Rail. Summer resident. Nests beginning of June.

142. *Porzana Carolina*, Carolina Rail. Summer resident. Nests beginning of June.

143. *Fulica Americana*, Coot. Summer resident. Nests beginning of June.

ANATIDÆ.—GESE, DUCKS, etc.

144. *Branta Canadensis*, Canada Goose. Spring and autumn migrant.

145. *Anas boschas*, Mallard. Casual visitant.

146. *Anas obscura*, Black Duck. Summer resident. A few breed here in April.

147. *Dafila acuta*, Pintail; Sprigtail. Not common.

148. *Mareca Americana*, American Widgeon; Baldpate. Casual visitant.

149. *Querquedula Carolinensis*, Green-winged Teal. Spring and autumn migrant.

150. *Querquedula discors*, Blue-winged Teal. Spring and autumn migrant.

151. *Spatula clypeata*, Shoveller. Rare visitant.

152. *Aix sponsa*, Wood Duck. Summer resident.

153. *Fuligula marila*, Greater Bluebill. Spring and autumn migrant.

154. *Fuligula affinis*, Lesser Bluebill. Spring and autumn migrant.

155. *Fuligula Americana*, Redhead. Spring and autumn migrant.

156. *Fuligula vallisneria*, Canvas-back. Shot at Lake St. Louis in the fall.

157. *Bucephala clangula*, Golden-eyed Duck. Spring and autumn migrant.

158. *Bucephala albeola*, Buffle-headed Duck. Spring and autumn.

159. *Mergus merganser*, Merganser. Common in spring and autumn.

160. *Mergus serrator*, Red-breasted Merganser. Spring and autumn migrant.

161. *Mergus encellatus*, Hooded Merganser. Rare during spring and autumn.

LARIDÆ.—GULLS, TERNS, etc.

162. *Larus marinus*, Great Black-backed Gull. Rare during spring and autumn.

163. *Larus argentatus*, Herring Gull. Common Gull. Young birds occur during spring.

164. *Larus Philadelphus*, Bonapartes' Gull. Young birds occur in autumn.

165. *Sterna hirundo*, Common Tern. Spring and autumn visitant.

166. *Sterna supercilialis*, Least Tern. Rare spring and autumn visitant.

COLYMBIDÆ.—LOONS.

167. *Colymbus torquatus*, Great Northern Diver. Occurs in the St. Lawrence in spring.

PODICIPIDÆ.—GREBS.

168. *Podilymbus podiceps*, Pied-billed Grebe. Summer resident. Breeds here.

The above together with the interesting List of Birds, collected by Professor Macoun at Belleville, with notes by Professor Bell, of Albert University; published in "THE CANADIAN SPORTSMAN AND NATURALIST," in the November number of 1881, will, I trust, induce others to publish lists of birds occurring in their localities. Such records are valuable for reference, regarding the geographical range of the species.

Correspondence.

"CRACK" AND OTHER "SHOTS."

To the Editor of the CANADIAN SPORTSMAN AND NATURALIST:—

"It is generally the *mistaken* idea of those who are no judges of shooting, that if a man kills a certain number of times without missing, he is to be put down as a first-rate shot; and that another person, because he has been seen to miss, is to be considered as his inferior."—COL. HAWKER.

There is, no doubt, a large amount of charlatanry in the pretensions of a *soi-disant* "crack shot," an illustration of which I may superadd to the cases alluded to in your last impression. I knew a gentleman, in England, who was said never to miss a shot; and he never, or "hardly ever," did. But then his *modus operandi* was as follows: he rarely pulled trigger on a bird at a greater distance than from 30 to 40 yards, and he scarcely ever even aimed at a bird that flew away to the right. I refer now to Partridge-shooting, and I need not say, that a very ordinary marksman ought seldom to miss a bird flying straight away from him, or to his left, at 30 yards. I knew another gentleman, a distinguished sportsman, who, although an excellent shot, *did*, and not unfrequently, fail to bag a bird he shot at; but, *his* style was somewhat different. He had a keeper always at his elbow with a *seco d* gun, and, having brought down his birds, right and left, with the first, the second, one of Lancaster's No 9, with steel barrels, was placed in his hands, and he *often* bagged a second brace, *generally* a third bird, from one covey. An excellent test of accuracy of aim may be demonstrated in the Old Country by paying a visit, in a boat, to the caves with which the rock-bound coast of Kerry, Ireland, is indented, and which are the haunts of seals, of many varieties of wild-fowl, and Rock-pigeons, *Columba livia*. Send a man in a spare boat into one of these caves, and the pigeons, called also Sea-pigeons, will fly out with meteor-like rapidity; and to drop them as they wing their way *towards you*, will put to the proof the accuracy of your eye and the

steadiness of your nerves. How different and how superior this sport to the almost mechanical process of firing at the same birds from a trap. *Apropos* of trap-shooting, I once saw a number of school boys in a field, in England, some with guns in their hands, and some with baskets. I stopped to watch them, and found that they were about to engage in a pigeon-shooting match. A bird was trapped; the word was given; the trap was sprung; the pigeon was on the wing; a gun was discharged; and down came the bird, wounded, as I supposed, for it lay fluttering on the ground. To my astonishment, however, a boy ran up, seized the pigeon, and *trapped it again*. Explanation: the unhappy bird had a long slender string attached to its leg, and when it was not hit, it was *pulled down*, and submitted to another ordeal. Such is sport as some define the term! V. CLEMENTI.

Peterboro, February 20, 1882.

A BOY'S ENCOUNTER WITH A BEAR.

SIR,—The following true account of an adventure with a bear may be of interest to your readers. In August last, a boy about twelve years of age, living within seven miles from this place, started for the woods one morning in search of his father's cows. He had with him a shot-gun, and was accompanied by a dog; having entered the woods a short distance, the dog, which had hitherto kept close to his heels, bounded suddenly away and was soon lost to view. Thinking there was game ahead, he followed as fast as his short legs and the bushes would permit in the direction the dog had taken. On reaching a place where the undergrowth was thick and tangled, an animal rushed past him at a speed too great to enable him to see what it was; he then became alarmed and began to beat a retreat, and well he did so, for at this moment the ugly visage of a bear approached. Between fright, and a desire to get home, (just then,) the boy succeeded in reaching a more open space before Bruin caught up to him. He then turned around and as her ladyship raised to give him a fond embrace, the little fellow dashed the gun into her face, having forgotten in the excitement of the moment that it was loaded. This seemed to disconcert the bear a little, and the youth started to run in another direction, but was almost immediately pursued. Having to scramble over a large hemlock log, the bark gave way and he rolled over, being partly

covered with the debris. As he raised himself, Bruin stooped above him, seeming quite surprised at his appearance; but, as he again started off, she gave chase, and had nearly overtaken him, when he took off his hat and threw it at her; this stayed her progress for a few seconds, and the boy took advantage of the delay by starting to climb a small ironwood tree, but none too soon: the first dash Bruin made for him as he was going up, left some ugly scratches on his boot. However he succeeded in reaching a limb about ten feet from the ground, over which he placed one leg. A short time afterwards, Bruin started up after him; and, although the tree was only about five inches in diameter, she succeeded in getting up beneath him. His free leg now came into use, and with all his force he kicked her on the nose and jaw; one unlucky aim, however, sent his foot into her mouth, but she only succeeded in tearing off a portion of the boot with which she descended to the ground, where she thoroughly examined her prize. After this, she proceeded to climb an adjacent tree, the trunk of which leaned in the direction of the one in which the boy was placed. She soon reached a point almost over his head, about twelve feet from him. Fearing she would drop down, he lowered himself to the ground, but was again obliged to ascend, as Bruin came down also. This operation was repeated several times, and it is uncertain how the adventure would have ended, had the boy not succeeded in attracting the attention of a man working in a clearing near by, whose arrival, with his dog, caused the bear to move away. On arriving home, the canine companion of the boy was found with the skin torn from one side of his face. The dog must have been the fleeing object that passed him just before he encountered the bear, and her persistency in following the boy, may be attributed to being enraged beforehand.

R. B. SCRIVEN.

Gravenhurst, Ont., 8th February, 1882.

THE PILEATED WOODPECKER.

In No. 12, Vol. I, you ask your readers for information regarding the nesting habits of (*Hylotomus pilatus*). In reply to this query, let me say that the nesting habits of this species, differ little from those of the most common of the Woodpeckers; except that the

cavity which it forms for nesting, is of course larger, and generally in a large tree, deep in the woods and high off the ground. I have seen several trees which at different times contained the nest of this species, though I have not obtained the eggs. More than twenty years ago, when I was a boy, residing in the township of Peel, and while engaged in sugar making, I noticed a pair of these birds at the work of nest building, in the trunk of a large beech tree about fifty feet from the ground. This, was, I think, in the latter part of April. In May, the female was hatching, for when the tree was struck with a stick, she would dart out and shortly afterwards return to the nest. In June both birds were constantly seen going in and out of the nest, evidently attending to the wants of the young. While the female was incubating, the loud call of her mate might often be heard in the vicinity. Afterwards in the winter season when the tree was chopped down, I examined the cavity, and found it large enough to contain the body of a grouse. Among the early pioneers this bird was called the "Woodcock," and not until, in after years when I began to study the works of Ornithologists, did I know the true Woodcock to be a very different bird. This bird is the most retired and solitary in its habits of all the Woodpeckers; and, but for its loud, monotonous and exciting call, would scarcely be known to exist. This "outburst" is occasionally heard resounding through the dark pine and hemlock woods, while the feathered hermit is on the top of some lofty tree in the depths of the forest. The call is sometimes heard in mid-winter as well as in the summer season; but it is most frequently heard in early spring or late in the fall, and is by some supposed to indicate a change of weather. The favorite habitat of this bird is the high rolling, hardwood forests, where there is an intermingling of evergreens and the sound of rushing waters and though it may occasionally feed on seeds, fruit, &c., yet its chief food appears to be the larger species of insects and worms which it procures from the bark and trunks of decayed trees. When two of these birds meet—as they sometimes do—while in search of food, on the trunk of a large tree, especially an old hemlock or pine, they soon strip it of its bark and leave the giant of the forest a monument of their strength and industry.

NATURALIST.

Listowell, Ont., February 3, 1882.

A GENERAL DELUGE.

(Continued from page 104.)

The American continent bears unmistakable traces of a race who lived contemporaneous with those people. They, too, were mound, pyramid and artificial lake builders; they were sun-worshippers, as were those who reached Asia, and, like them had their idols, to whom they made animal and human sacrifices; they faced the east in their worship, and buried their dead looking the same direction, and each had a large array of priests who administered to their gods; each employed ornamented funeral urns in which they deposited the ashes of their worthy dead, and each used the phallic emblem in the same manner. In short, each were parts of the great wave of humanity, going out of a common centre, one rolling eastward, the other westward, to escape a then impending calamity. Each had similar features† and similar forms of expression; each carried forward a similar civilization; each had made similar advances in mineralogy; each employed the now lost art of hardening copper for stone-cutting, and used the precious metals for ornamentation. And, to climax the whole, *each had a written language.*‡ Famine, pestilence, and exterminating war, an overwhelming ocean wave, or some other direful calamity swept all away. His labors only remain to tell that he has been. Savage man, from some

†In an excavation made in the lower stage, or esplanade of the principal mound, I found embedded in the walls of the cut, and so firmly fixed in the wall that it was with difficulty extracted, *the head of an idol with Asiatic features.* * * *It would be of thrilling interest to be able to ascertain how the conception of the Asiatic face originated.*—S. B. Evans in his letter of May 25th, 1881; to the *Chicago Times*, describing his visit to the pyramid of Cholula, Mexico.

‡Their monuments indicate that they had entered upon a career of civilization; they lived in stationary communities, cultivating the soil and relying on its generous yield for support; they clothed themselves, in part at least, in garments regularly spun and woven; they modeled clay and carved stone, even of the most odibute characters, into images representing animate objects, including even the human face and form, with a close adherence to nature; they mined and cast copper in a variety of useful forms; they quarried mica, steatite, chert and the novaculite slates, which they wrought into articles adapted to personal adornment, to domestic use, or to the chase; they collected brine of the salines into earthen vessels, moulded in baskets which they evaporated into a form which admitted of transportation; they erected an elaborate line of defence stretching for many hundred miles, to guard against the sudden irruption of enemies; they had a national religion, in which the elements were the objects of supreme adoration; temples were erected upon the platform mounds, and watch-fires lighted upon the highest summits; and in the celebration of the mysteries of their faith, human sacrifices were probably offered.—*Foster's Pre-Historic Races of the United States*, pp. 350 and 351.

(To be continued.)

less favored region, gained control, and *intruded* his dead into the mounds and places of sepulchre of the lost, and now, so far as America is concerned, wholly extinct race.

The antiquarian and scientist, and the theologian as well, should cease investigations among the ruins of Asia for the birthplace of humanity, but such may, with profit, find a perfect resemblance between ancient Asiatic and American civilizations, and almost demonstrate that the latter is coeval with or antedates the former by thousands of years; that the western is quite as old as the eastern hemisphere, and that here has been wrought changes of which the human mind has but a feeble conception; that the marks of an ancient and advanced civilization all around us give indications of still older ones which cycles of submergence and emergence are ever developing to observing man; and which, if human records could be preserved through all the mutations of time, would ultimately reveal much that at present is concealed from the earnest investigator.

In a preceding article we stated that even scientists, had claimed too brief a period for the age of the earth. A hundred thousand years leave but trifling changes on the earth's surface, when the vast whole is taken into account. A portion of a continent may be engulfed and another may emerge from the ocean; new islands may appear, or seas be drained, but the general appearance will remain the same. The changes are not so marked or frequent now as during earlier periods, when the internal heat was greater, the surface thinner, and the shock was more universal.

Geologists, as if fearful that a statement of the long period which has elapsed since the earth was a molten incandescent mass, revolving on its own axis, as well as round the sun, carrying with it several satellities, all of which, save the moon, have been completely swallowed up and lost in the parent earth, are content to demonstrate the thousands of years which would be required to silt up the valley of the Nile; to show how vast a period would be required for the Ohio, Mississippi and Missouri, and the tributaries, to fill up an arm of the ocean from Cairo to the Gulf of Mexico; to abrade the rock of Niagara and form the mighty chasm, more than two hundred feet in depth, and seven miles in length, through which flow the waters of the great lakes on their way to the ocean; or to build up a chalk cliff nearly a mile in height, as found in England, from minute shells of microscopic animalculæ.

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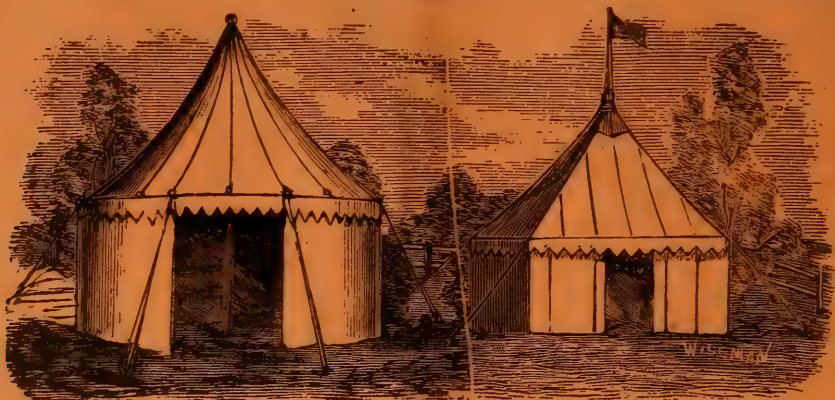
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VOL. II.

No. 4.

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No. 4.

MONTREAL, APRIL, 1882.

VOL. II.

WILLIAM COUPER, Editor.

 IN ORDER to dispose of an accumulation of matter, we have increased the number of pages in our present number. This enlargement we would like to retain permanently, and trust that before the end of the present volume, our subscription list will have increased to such an extent as to enable us to do this without suffering pecuniary loss. We have had many difficulties to contend with—much doubt expressed with regard to our longevity—and some fault found with the limited form of our publication. These difficulties have not proved insurmountable. Our subscription list has steadily increased. We have endeavoured to profit from the well-meant criticisms of our friends, and have quietly ignored the forebodings of those who did not predict our success. We now ask the co-operation of our subscribers—of all lovers of field sports and Natural History—and with this assistance, in a country so extended as the Dominion of Canada, and in which there is such a diversity and abundance of sport, we feel quite confident of the prosperity of the CANADIAN SPORTSMAN AND NATURALIST, which we claim is the only publication in the Dominion, devoted exclusively to legitimate field sports and the Study of Nature.

WHY ARE GAME ANIMALS BECOMING SCARCE ?

When Bartram, Audubon, Bachman, Wilson and Bonaparte wrote on American Natural History, the quadrupeds and birds which are classed as game on this continent, were then abundant. The above writers had no difficulty in obtaining material to describe and illustrate their works. But a gradual change has been going on as regards the abodes of American animals. Man, in opening up the soil, destroys

or presses back almost every wild animal inhabiting his immediate woodlands and lakes. The aborigenes are no exception, as many of us now living, can remember. In 1842, Indians were settled on the North shore of Lake Ontario; one tribe called "Credit Indians," were frequently seen at that time selling their wares in the streets of Toronto. Their stay was of short duration in the neighbourhood of whiskey and the white man—being compelled to seek another *habitat*, they gradually disappeared—the weaker *homo* had to succumb to the stronger. In like manner, combined with the achievement in the forms and use of heavy arms of late there is also a visible force pressing on the wild animals from their former haunts in prairie and forest, and in order that they may retain their balance amongst the native *fauna*, they, like the weak aboriginal tribes, have also to retreat to new localities to find a subsistence. In 1842, many of the large Canadian marshes were teeming with geese, duck, snipe and plover indigenous to the country. Toronto marsh was then a good shooting ground, and many birds which regularly visited it at that time, are considered of rare occurrence to-day. A large Black Bass (*Huro vulpes*, Agassiz,) then had its *habitat* in Ashbridge's Bay, and many a fine 20lb. fish of this species did Joe Lang spear in its surrounding marshes. But there has been a change; the building of the esplanade forced back the water in Toronto Bay, resulting in a breach in the sandy peninsula opposite, therefore destroying the old marshy grounds lying east of the city, thus finishing the historical hunting and fishing resorts of Toronto sportsmen. An increasing rural population annually clearing the woodlands, and the extension of railroads are powerful agencies to frighten and cause the removal of wild animals, which, at

one time, were common in our immediate forests. The Moose and Virginia Deer will not remain long in proximity to civilization, and it is a fact that these species each successive season move towards higher latitudes. It is therefore probable that ere many years pass away, the hunter, in order to obtain venison, will have to travel to the extreme northern edge of the Canadian forests to find his game. There is an American cry at present against a few English gentlemen, who occasionally visit the Western regions of the United States in search of large game. They are accused of wantonly destroying Rocky Mountain Elk (?) Shooting the animals down for the mere pleasure of afterwards boasting of the circumstances. Now, we cannot comprehend the reason why an old sporting paper like *Forest and Stream*, should mislead its readers by stating that Englishmen journey so far for the sport of shooting Elk, when they can procure them in some places in Canada or Maine. An editorial in the same paper says that Moose are not abundant in the Rocky Mountains or valleys adjacent thereto. There is something wrong here, and the zoological writer in *Forest and Stream* would do well hereafter to adhere more closely to the nomenclature of the Michigan Sportsmen's Association. No true sportsman, especially an English one of means, will remain silent without demurring against a false charge of this nature, and it is evident that the object of making it, is to further the interests of Western skin hunters, who are jealous of the visits of good marksmen, who go there, not for mercenary purposes, but for pure sport. The people inhabiting the Western portions of the United States, where large game occur, should certainly make stringent laws to protect the animals, going so far as to compel every man to procure a license to hunt in the regions of the Rocky Mountains. If this is not done, the Wapiti (*C. Canadensis*), the Elk of *Forest and Stream*, will ultimately be exterminated, and the Buffalo (although not considered game) ere many years pass

away, will also be classed among extinct quadrupeds of this continent. In our own Great North-west Territories, at present, the richest sporting grounds in America, the advance of the white man will eventually produce the same changes in the *fauna* of that region which have been alluded to above. The lakes and ponds of the vast prairie lands for centuries past and the breeding-places of many species of wild water fowl, will, as man surrounds them with his habitations, be thoroughly deserted, and the birds, like the poor Indians, must find more retired places to produce their species. Such then is the Natural History view to be taken of the advance of civilization westward. Every animal of a wild nature will have to retire before it. That there is plenty of space for their removal, there is no doubt, but there is a limit to the northward progress of some quadrupeds and birds, many species of which cannot subsist in high latitudes. Then, anticipating a large annual increase to the present rural population in the North-western portions of Canada, the results which are now spoken of regarding a change in the *fauna* of that region, will certainly take place. Where will they go to be undisturbed as they were before the recent encroachment of man on their domain? This is a question of interest to the sportsman and naturalist. Any person reading Audubon's visit to Labrador, and who will take the trouble to follow his footsteps on the latter coast, as the writer has done, may see the changes which have taken place there. In fact, one reading his description on the spot where he found a species of bird breeding on that rocky shore, would pronounce the statements fictitious, as no nests of the kind are found there at this day. Man appeared and settled in the neighbourhood, and the birds have removed for safety to more secluded places.—C.

THE NIDIFICATION OF NUTHATCHES.

Eminent Ornithologists have described the nesting habits of these birds as similar to Woodpeckers, the nest being formed by

excavating a hole in a decayed tree or stump. Audubon mentions having found in Maine, a nest of *Sitta Canadensis*, which was dug in the decayed wood to the depth of fourteen inches. Coues, in his "Birds of the Colorado Valley," referring to *Sitta Carolinensis*, states, "that it regularly digs a hole for itself, both sexes working assiduously till an excavation, it may be fifteen or twenty inches deep, is prepared for the reception of the nest." The European Nuthatch appears to nest differently, according to Morris "the nest is placed in some hole in a tree. If the entrance is too large, they narrow it with clay, until it is of the right width." Now, if all these descriptions are correct, we find a wide difference in the nesting habits of our Nuthatches and their European congener.

My observations have, so far, been confined to *Sitta Carolinensis*, three nests of which I have taken during the past five years, none of which were in holes formed by these birds, but in natural cavities, in living trees. From these observations I would suppose a natural cavity, or the deserted nest of some woodpecker, or squirrel to be the place usually selected, and that these birds never, or "hardly ever," dig a hole for themselves. The following extract from my note-book refers to the last nest taken.

Returning from a visit to a sugar camp in the spring of 1878, I heard the cry of a pair of Nuthatches, following in the direction of the sound. I soon perceived the birds and was not surprised, even at this early season, to find that they were making preparations to build. One of the birds had in its mouth a large piece of downy looking material, with which, after a short time, it flew to a neighbouring tree and proceeded to the spot selected for the nest. This was a round knot hole, overgrown by bark, and about four feet from the ground. I ventured to peep in, but all was darkness within, and as I did not wish to disturb the birds, retired, to observe them from a distance. For several days both male and female were busy carrying material for the nest, after which I did not see them for some time, as after completing the nest they apparently retired to some secluded spot, no doubt to complete their nuptial arrangements. On the 20th April, with mallet and chisel in hand, I again went to the tree and on looking down into the cavity could see the female on the nest. The hole, though sufficiently large to admit a bird of greater size than the Nuthatch, was too small to allow me to insert my hand. Before pro-

ceeding to enlarge it, I knocked vigorously on the tree but could not frighten the brave little bird away. I then took a slender stick which I thrust gently into the hole and endeavored to force her to leave by touching the head and wings. This, she resented by pecking angrily at the twig and I was at last obliged to allow her to remain while I enlarged the cavity. The nest I found to be composed of a large amount of miscellaneous matter, rabbit hair predominating. The material was spread over a large surface in the cavity, with a well defined depression in the centre, which contained the eggs, nine in number. Incubation had not commenced and I transferred them to my cabinet without accident. This was the largest set I obtained, the other two nests having contained six and eight respectively.

W. W. DUNLOP.

Montreal, March 10th, 1882.

MONTREAL BRANCH, ENTOMOLOGICAL SOCIETY OF ONTARIO.

The eighty-ninth meeting of this society was held on the 13th March, at the residence of the President, H. H. Lyman, Esq., who read a paper on the Lepidoptera collected at Sault St. Marie, in 1881, by Dr. Robert Bell, of the Geological Survey. All the species taken are also found at Montreal, with the exception of *Coenonympha inornata*, Edw., a butterfly taken in the Western States, but which extends into the Algoma region of Canada. A pleasant hour was spent over the microscope, and several rare and beautifully illustrated works on Entomology were also on the table for the inspection of the members.

REPLY TO ORNITHOLOGICAL QUERIES.

SIR,—In your March Number it is queried if the nest of the Whip-poor-will (*Antrostomus vociferus*) has been found in latitude 45° . The latitude of Listowel is nearly 44° , but owing to its elevation, is probably as cold as 45° of the sea level. The Whip-poor-will is quite common in the swampy woods of this neighbourhood, and during the calm hours that follow the sunset of the early summer evenings, its loud and melancholy notes may be heard in the town, from the woods north and south, though nearly a mile distant. Its eggs have been found by several parties in the vicinity, and one collector who procured some and appeared well acquainted with its habits, informed me that its nest is always sure to be found near the place where its notes are heard.

in the early part of the season. Two years ago, a boy who resides a few miles south of this town, told me that the summer before, he had found the eggs of this bird on the bare ground, where a log had been removed, in a piece of swampy land. In 1865, when I came to reside in North Wallace, a neighbour found a nest of the Whip-poor-will, containing two eggs, in the month of August; this seems to indicate that it hatches more than once in the season, as it is well known that the eggs are generally found in the early part of June. The latter nest was on a piece of rising ground close by a pine and cedar swamp, and the eggs were of a bluish white color mottled with brownish black. The peculiar notes of this bird are probably the voice of the male, and its noisy repetition is generally heard at the time when the female is selecting her nesting place, and during incubation. After the young are hatched, the time and attention of the male is occupied in assisting to supply their wants, and his twilight notes gradually cease as the young become more voracious, until about the middle of July, when he becomes silent, except when the first eggs have been removed and his mate is again nesting. It makes no regular nest; the two eggs are deposited on some dry leaves, or fine rotten wood, near swampy woods, where amid the dense foliage, and gloomy shade, perched *lengthwise* on a low branch, or mossy log, the male passes the hours of sunlight in silence and inactivity, but as the shadows of evening gather over the woodlands, it commences its low, soft flight in pursuit of night-flying insects, or in some dark retreat, "begins its evening hymn." *The Winter Wren*—A query regarding the nest of this bird, is also made. I do not know it by that name, but there is a Wren quite common in the wild swampy woods of Central Ontario, whose thrilling notes are very pleasant, especially when heard in the early spring mornings, before the snow and ice have disappeared from the gloomy places, where the little creature takes up its summer residence. Its general appearance is similar to that of the House Wren, but it is rather smaller and darker in color. It sometimes utters notes like the red squirrel, and again like the chirp of the cricket, but louder. It forms a nest like that of a mouse, generally in the under part of the turned up root of a fallen tree, sometimes in the side of an old moss-covered log, or rather stump; the outside is formed of moss, and the inside is lined with fine dry grass, feathers, and hair. Its eggs are white with reddish spots scattered over the

large end. It sometimes lays eight eggs. Those in my collection were taken from a nest of six in the early part of June 1879. *Sitta Canadensis* is rather a *rara avis* in those districts where my ornithological researches have been pursued. It appears to prefer the deep evergreen woods to the hardwood timber lands. I have not seen its nest or eggs, but am informed that they differ little from those of the white-bellied species. I have often seen the nest and eggs of the latter and can furnish a sketch if desired. *Parus Hudsonicus* does not visit this latitude, and the Pine Grosbeak is only a rare winter visitor. Of owls I have not seen a nest or egg of any of the species, some of them, however frequent our woods, and doubtless nest here. Mr. Vennor's article on the nest of the Sparrow Owl, is the only article on the subject that I have ever seen. It is a very rare bird here. The Woodpeckers mentioned do no visit this region. The nest of a Crossbill, containing young, has been seen in a neighbouring township, in the month of March, and another species, the Shore Lark also nests in March and April.

WM. L. KELLS.

Listowel, Ont., March 15th, 1882.

Pine Grosbeak (*P. Canadensis*). I collected an adult female in the immediate vicinity of this city, about the beginning of August, 1879; this was the only one I have observed during summer. Mr. J. H. Carnall informs me that he found them quite abundant in September, on Nictaux mountain, Tobique river; he also found several old nests, which he assures me were made by these birds. Some years they are abundant, then, for two or three successive winters, we see nothing of them. During the winters of 1876 and 1878 they were very abundant, visiting the suburbs of the city, feeding on the berries of the mountain ash. Can you give a reason for the peculiar movements of this bird? Hudson Bay Tit, (*Parus Hudsonicus*). This Titmouse is undoubtedly a resident with us, and breeds in this Province. I collected a specimen on the 20th of May, and have observed them here during summer. Mr. Banks noticed a pair in June, carrying material for nest-building. Two nests of this species were discovered near Stewiacke, N.S., by Mr. Bailey of the Nuttall Ornithological Club. Red-bellied Nuthatch, (*Sitta Canadensis*). Have found this bird nesting near St. John. They are more abundant some seasons than others.

HAROLD GILBERT.

St. John, N.B., March 13, 1882.

NOTE.—These queries are going to do good eventually. In their promulgation, I wished to arrive at truth in order to correct the errors of old American writers on our birds, more especially regarding the time and localities of nidification of the species which pass the greater portion of their lives in high latitudes. Our correspondent gives no substantial proof that the Pine Grosbeak breeds in N. Brunswick. Until the nest and eggs are discovered, the mere occurrence of one adult female in August will not suffice to class it as a resident. They arrive about the latitude of Montreal during severe weather in September, being then gregarious, remaining as such in the woodlands until the middle of May following, when they leave for the far north. Regarding the nests spoken of by Mr. Carnall, it would be worth his while to visit the locality again during the breeding season. Will Mr. Gilbert be kind enough to send a description of the nest of the Red-bellied Nuthatch? Does it select an old knot-hole or excavate a cavity for itself?—C.

ACCLIMATING THE MESSINA QUAIL AT QUEBEC.

DEAR SIR.—In one of your recent issues you alluded to the efforts of Col. W. Rhodes, and others to acclimatize the Messina Quail in this Province. The Colonel is now in Europe and has, if I mistake not, sent orders for the importation of a few hundred of these birds. In order to help his praiseworthy efforts, I permitted him to send to my aviary of Canadian birds, the Quail he received too late for distribution in the woods last year. I intend to give them their liberty in April, and from the following statements, I hope success will crown the Colonel's efforts.

Yours truly,

J. M. LEMOINE.

Spencer Grange, }
Quebec, 20 March. }

W. Rhodes, Esq., Quebec, P.Q., Canada.

DEAR SIR,—Your favor of 13th January came duly to hand and much interests me. I did not see your referred notice to queries in

"Forest and Stream," or I might have given you the gratifying news that the quail returned to Maine last spring. None were imported to this State in 1881, and they were observed here previous to the liberation elsewhere of any newly-imported ones. The young of the previous season were hatched in June and July. They mature very rapidly, and from the time of hatching (when they at once leave the nest as good runners) until the autumn migration, there is an interval quite equal to the time afforded the young of many of our song birds to acquire strength for their long journey. By my advice and direction the 2,000 quail that I distributed throughout Maine, in 1880, were liberated in lots of not less than 15 or 20 in each locality selected. If this method with equal total numbers should be followed up for several consecutive years, I should have no doubt of success in the object desired. The results of a single season, however, may not prove to be permanent.

Yours very truly,

EVERETT SMITH.

Portland, Maine, Jan. 20th, 1882.

NOTES ON THE NATURAL HISTORY OF LUCKNOW, ONT.

SIR,—You published a list of reptilia procured by me in this vicinity, and other localities in Ontario. The following four additional species, have been added to my collection *Chorophyllus triseriatus*, Little Tree-frog, Lucknow. *Amyda mutica*, (four specimens.) Lake St. Clair. *Amblystoma Jeffersoni*, Jefferson's Salamander. Found at Hyde Park, by J. Morden. *Scotophis, Allighanensis* is reported to be found in Essex; its occurrence here is probable, as I have received several specimens from Michigan, which is in the same latitude, the only barrier being a river, separating the Southern portion of Ontario from Michigan.

The Red Lynx, *Lynx rufus* is not uncommon in this neighbourhood. I obtained four specimens this year, and I can procure more if I take the trouble to hunt for them. The Canada Lynx, *Lynx Canadensis*, appear to be a larger Northern species. It has never been seen on this peninsula, or south of the Ottawa river. I have read of it as occurring common in the Province of Quebec. Almost every school-boy has read the interesting account of Mr. Bannetyne in the "Reader;" of how an

Indian was killed by a Canada Lynx, and his brother's description of his death and removal for burial. Among birds, I record the capture of the Sandhill Crane, *Grus Canadensis*, shot by Mr. F. Martin on St. Clair flats. I obtained it from him. He killed another which unfortunately flew into an unapproachable morass and was lost. I accompanied him on the next day to hunt for it; the mud was deep and we could not find bottom with an eight foot paddle. The surface was covered with rank weeds and other vegetable refuse, preventing us from pushing the canoe into it or over it, and to attempt walking on it would be a mad idea. I shot the King Rail (*Rallus elegans*), and had it mounted; also a Yellow Rail (*Porzana Novaboracensis*). I presented these two birds to Mr. John Morden of Hyde Park. A very fine specimen of *Rallus Virginianus* shot on the flats may be seen at any time among his beautiful collection of Canadian birds. Among rare ducks, I secured two fine specimens of the American Black Scoter (*Oedemia Americana*); also the Velvet Scoter (*Oedemia fusca*); they are magnificent birds. I killed some splendid Canvas-back which I prize highly, as they are becoming scarce, but I am sorry to add that I lost a fine young specimen of the Red-necked Grebe, (*Podiceps Holbolli*), which by the carelessness of the Express Co., was not delivered until spoiled. I particularly regret this, as I have only procured one specimen during many years. The Great Northern Diver, (*Colymbus torquatus*), is common but difficult to obtain. I am not aware that *Colymbus Arcticus* has been noticed on the inland lakes; but I have shot three or four of the Red-throated Diver, (*C. Septentrionalis*). I have also seen the great White Heron, and one was killed near Wallaceburgh Co. Kent, but the ignorant person who shot it, allowed the bird to spoil. The Least Bittern, (*Ardetta exiles*) and Night Heron, (*Nycticorax grisea*), are not uncommon on the St. Claire flats.

J. H. GARNIER.

Lucknow, 27th Feb., 1882.

EXPERIMENTS WITH GUNPOWDER.

SIR,—I send you a report of some experiments I have been trying with the following powders, thinking it might be of interest to some of your readers. I have been unable to carry out the trial of the different kinds of powder I mentioned to you some time ago,

owing to the difficulty I have in obtaining it in such small quantities (viz.: 12 charges of 3 drams each.)

Description of Powder.	Wadding.	Pattern.	Force per Pellet.	Velocity.		Recoil.
				10 in. Plate.	Feet per Sec.	
Pigou, Wilks & Laurence No. 4 Grain.....	Thin Card	21	2.66	617	89 lbs.	
Curtis & Harvey's.....	do.	34	2.40	556	79	
No. 6 Diamond Grain.....	do.	26	2.39	554	88	
Hamilton F.F.....	do.	34	2.30	533	83	
Hamilton "Caribou".....	do.	24	2.53	556	87	
Schultze.....	do.					
CHARGE OF POWDER 2½ DRAMS AND 1 Oz. No. 6 SHOT.						
(Some Distance.)						
Pigou, Wilks & Laurence....	4 Pink Edge.	Thin Card.				91
Curtis & Harvey.....	do.	do.	2.78	644		83
Hamilton F.F.....	do.	do.	2.03	470		81
" "Caribou".....	do.	do.	2.71	638		73
Schultze.....	do.	do.	1.86	431		87
	do.	do.	2.41	566		

I may state the recoil spring was screwed up to 60 pounds.

The fine grain powder (Pigou, Wilks & Laurence's and Hamilton FF) did best with the 2½ dram charge, both in pattern and pellet force. Shultze's powder also gave the best pattern, but the force was not quite so good; the recoil being the same as with 3 drams of Curtis & Harvey's, and "Caribou" fell off very much, although the recoil of the former was four pounds heavier and the latter ten pounds lower. The heavy recoil with the 2½ dram charge was probably caused by the

change of wadding, the four pink edge offering more inertial resistance than the thin card and thick felt.

TABLE SHOWING HIGHEST AND LOWEST PATTERN, VELOCITY AND RECOIL.

Charge 2½ Drums.	Pattern 10"		Velocity.		Recoil.	
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
Schultze.....	55	35	6'09	501	90	86
Curtis & Harvey.	30	20	5'03	412	85	81
Hamilton F.F....	40	20	7'30	528	83	80
Do. "Caribou"	20	10	4'64	412	75	71
Pigou, W. & L...	65	20	7'40	545	96	86
Charge 3 Drums.						
Schultze.....	34	17	5'93	577	90	86
Curtis & Harvey.	37	29	5'89	501	90	72
Hamilton F.F....	23	20	5'59	547	91	84
Do. "Caribou"	42	28	5'40	519	85	81
Pigou, W. & L...	35	15	6'38	589	93	84

AVERAGE OF THE DIFFERENT POWDERS.

Charge 2½ Drums.	10 in. Pellet		Force.	Velocity.	Recoil.
	Pattern.	Force.			
Eng. Black Powders .	33	2.41	559	84	
Hamilton do.	23	2.26	524	77	
Schultze	40	2.44	566	86	
Charge 3 Drums.					
Eng. Black Powders .	28	2.53	586	78	
Hamilton do.	30	2.35	545	83	
Schultze.....	24	2.53	586	86	

Schultze Powder recoiled nearly as much with these charges as it did when fired with 52 grains and 1½ oz. of shot, in which case it averaged 88 pounds.

SPREAD OF SHOT AT DIFFERENT RANGES, (1 oz. of Shot used.)

Distance of Powder.	5, 10, 20,		30		and 40 Yards.	
	Diameter of Pattern in Inches.	Ver- tical.	Hori- zontal.	Ver- tical.	Hori- zontal.	
3 drams.	4 6½ 17	43	and 40½	79	and 70	
3½ "	3 6 15½	40	" 38	74	" 69	
3¾ "	4½ 9 24	52	" 51	90	" 87	

Circles with the above diameters do not include all the pellets in a charge, as there were a few wild shot that I did not include, as anything outside would only be struck by the merest chance. According to the spread of shot they do not travel in a straight line after leaving the muzzle, but curve outwards from the "line of fire." At first I thought this was caused by the shot passing through the paper screens, so I tried a shot at the 40 yard screen only and obtained about the same result; therefore I am satisfied the screens did not affect the direction, and conclude it is caused by the shot colliding with each other during their flight. The horizontal diameters of the 30 and 40 yard pattern, were shorter than the vertical in every case, varying with the charge

of powder, the heaviest charge giving the least difference. I measured and weighed the different powders, and find that Curtis & Harvey's is the heaviest for its bulk, "Caribou" the next, the other two samples are the same weight, and Schultze's powder was rather under half the weight. The charges of "Caribou" used in these experiments, were obtained from a friend, who purchased the powder as such.

Yours truly,

Lachine.

12-BORE GREENER.

A DEER HUNT IN FLORIDA.

DEAR SIR,—Thinking perhaps some of the readers of your journal, would like to know what kind of sport we have on the West Coast of Florida, I will try to give them an idea of what is to be had in the way of shooting. I shall tell them of what I saw in a day's deer hunting on one of the Islands of Charlotte Harbor. Leaving this place about ten a.m., a party of five of us, exclusive of "Bob" a very intelligent hound, proceeded across San Carlos bay; two going in a small schooner, and three of us going in a sloop; after a pleasant run of about an hour, we passed between Sanibel and Pine Islands, entering that beautiful sheet of water named "Charlotte Harbor." Before us lay a number of islands of a semi-tropical appearance. The palmettoes and hemp raising their heads high above the mangroves; between the islands were oyster bars which were covered with White and Grey Pelicans, Cormorants, and Great Snowy Herons. On the neighbouring mangroves, perched Ibises, the Scarlet necked and Louisiana Herons, and the beautiful Roseate Spoonbill, while farther up the harbor we could see the white sails of a schooner beating up towards the north. Sailing along the shore of Pine Island, we dropped anchor close to a small island near Pine. Leaving H— in charge of the boats, we took our small boat and rowed to an oyster bar between the two islands, where K. and I landed, and concealed ourselves behind a low growing mangrove. C—, S—, and the dog then went to the small island to drive it. We expected the deer, if any were there, would take to the water, and swimming to the bar, cross it, and endeavor to escape to Pine Island. We had not very long to wait till Bob gave tongue. K— and I crouched lower among the leaves and anxiously watched the opposite mangroves, but Bob drove away from us, and then suddenly changing his note, we knew he had TREED. "Well, by George, I'll bet that's a Coon" said

K—, at that moment we heard two reports from a gun, then all was silent. We waited a few minutes longer, when Bob again spoke. He made the circuit of the island several times and then once more all was quiet. K— and I sat and watched the sharks pursuing the mullet. I counted seven sharks from five to ten feet long, all within a hundred yards of us; or we watched the interesting movements of a large Bald Eagle and an Osprey. The latter had captured a mullet, when the Eagle, which had waited patiently on a large mangrove near by for this event, immediately swooped down towards the Osprey, which uttering screams of despair, endeavored to rise above the Eagle. This, the last named bird tried to prevent. I never saw anything more beautiful than the flight of those two birds. The Osprey would rise quickly, then drop, but the Eagle was always close behind, and throwing itself down with a half somersault movement, would try to seize hold of the fish. When this had gone on for some time, a second Eagle appeared on the scene and took up the pursuit, upon which the first withdrew from the chase and returned to his perch. The Osprey now evidently despaired of escaping with its prey as the second Eagle which appeared to be a female, and was probably the mate of the other, pursued it so closely, it was forced to drop the fish, when the Eagle pausing for a moment in the air, went down with a rush and caught the fish before it fell in the water. In watching the Eagles we had almost forgotten the Deer, but Bob had not, for we could hear him approaching quite rapidly. We also heard C— and S— shoot once or twice. In a few minutes a deer jumped into the water from out the mangroves to be quickly followed by another, and close at their heels was Bob. On they came swimming rapidly towards us, nothing but their heads being above water. When they came within good range I gave the first the contents of my gun, turning it over, while K— fired at the second only wounding it however, and though we gave it another charge of buckshot, it swam around the end of the bar and escaped to Pine Island. We got the dog into the boat and going over tracked it for some distance into a mangrove swamp, but as the tide was rising, Bob lost the trail and we had to return without it much to our disappointment. Returning to the bar we took the Deer we had secured to the boats where we cut it up. As the sun was now getting down towards the horizon, the various kinds of birds began to seek their roosts or rookery,

as it is called. I stood there and saw flock after flock of Ibises, Pelicans Herons, Egrets, Spanish Curlews, Cormorants, etc. pass by, while the rookery was alive with them. High over all sailed the graceful man of war Hawks describing circle after circle with a scarcely perceptible motion of the wing. Having had something to eat, C— and I started for home, the others in the schooner going up the harbor in search of Flamingoes. We had a pleasant sail home and altogether enjoyed our hunt very much. I may mention that it was a "Coon" Bob had treed the first time, and our friends had to discharge their guns to frighten the Deer off the island, as they were not at all afraid of the dog. C— and S— could not get a shot at them as the mangroves were so dense.

Yours &c.,

F—.

Punta Russa, Florida.

A GENERAL DELUGE.

BY G. W. BROWN, M.D., ROCKFORD, ILL.

(Concluded.)

But they neglect to tell of those illimitable ages, which if enumerated, no one could comprehend, probably not less than six hundred million years, during which every particle of matter, whether dust, or clay, salt, sand, pebble, boulder or rock, mineral or vegetable, found on the earth, or deep below its surface, of which the various geological formations are composed, whether stratified or otherwise, overlying the primary rock, more than twenty miles in depth, and in which the fossil remains of by-gone ages are entombed, have been wrested and torn from the elementary rock, worn down by rolling upon each other, and by the action of winds and waves and falling waters, has subsequently been deposited in the beds of oceans, to again harden into rock, giving us the sandstone and limestone formations, the coals, shales, clays and all other rocks and earths, other than the quartz—the parent of them all.

The mind is overwhelmed as it contemplates the eternity of years which have preceded us, as the eternity which lies beyond! Truly it may well be said: "We stand midway between two eternities!"

Puny man may seek to abridge the years, and shorten the geological ages; but the startling fact is ever before him that finite mind is incapable of fathoming infinity. He must become conscious that *change*, not *destruction*,

is the fate of everything; that Law, fixed and eternal, governs the minutest particles of matter as of rolling worlds.

Man lives his brief life, passes away and is succeeded by others. Another generation repeats itself. So it has always been—so it will ever be. There really was no beginning, there can be no ending.

We may render homage to a master mind who designed all, and called all into being, or insist that all is self-existent and eternal, and we shall find the result is the same. It saves one step in the grand scale of creation. The ancients thought the earth was a plane, and rested on pillars; that the pillars rested on a rock, and the rock on a turtle's back. But what does the turtle rest upon? was the inquiry of the sceptic.

The logic that there is no design without a designer, no law without a lawgiver, is only a repetition of the pillar, rock, and turtle theory as regards the earth.

The sceptic of to-day meets all our arguments in regard to a first cause with the syllogism: "All the works of the Creator give evidence of design. As no design can exist without a designer, therefore," say they, "the Creator must have had a designer." Astronomers found that the earth did not rest upon pillars; that there was no need of a rock for them to stand upon; nor a turtle's back to support the rock; so when humanity shall better understand the forces of Nature, self-inherent in matter, which calls world's into being and endows them with motion and life, there will be less need for trying to comprehend that which is incomprehensible. The Law governing the mighty machinery of the universe; which keeps all in equal poise; which causes the earthquake and the upheaval of vast mountain chains; which drains oceans and sinks continents; which fills the atmosphere with lurid flame; and startles the people with its thunder crash; which gives rise to the winds, the waves and the tides, the heat of summer, the cold of winter, and the thousands of other incidents of well defined Law, once ascribed to the action of an *angry* God, is now well understood. As knowledge is further developed, other secrets of nature will be revealed, and the mythical causes will be further and further removed into the realms of the ignorant past.

The genuine student has no theories predicated upon early teachings. The great book of nature is wide open before him, penciled by unerring Law, and everything must be tested

in the great crucibles of Reason and Truth. The dross is only consumed. The pure gold is made brighter by every test applied to determine its genuineness.

The Sanscrit is probably the original of all modern European languages. It contains the roots of the Latin, Greek, Celtic, German, and Slavonic. It is the ancient tongue, which prevailed throughout Hindostan, and from the Gulf of Bengal to the Arabian sea, extending to the Himalaya mountains on the north. The language has not been spoken for many thousand years. The sacred books of the Brahmans were written in it, and, hence, have been preserved to modern times, without alterations common to a living language, as our ancient literature has been transmitted to us through the Greek and Latin. Scholars find the original of many of our myths in the Sanscrit, the story of "William Tell" being one of them, though the scene of it is now located in Switzerland, and the occurrence is made to have transpired within a few hundred years.

We stated in a former article that the account of a general deluge was undoubtedly copied by Jewish historians—priests, Josephus tells us,—from Babylonian records, while the Israelites were captives in that country. The Babylonian history, without question, was the source from which the flood of Deucalion, as well as that of Noah, was derived; but the story was older than Nineveh or Babylon; it was transmitted to them from a still older civilization; it came to those ancient people through the Sanscrit literature, the common fountain from which Chaldaea, Assyria, Persia, and Egypt, were supplied, and from which the Phœnicians drank second hand, as did the Hebrews.

The geography of the old Sanscrit books describes the world as "a circular plain, with a slightly convex surface, sloping gently on all sides to a surrounding ocean. Beyond this ocean, which incloses the world in a vast river-like circle of waters, was a circular range of mountains, beyond which none but the most powerful gods could pass. In the centre of the world, at the highest point of its surface, stood Mount Meru, with Jambu-dwipa, the primeval home of the Aryan race, spread out around it," bordered by six other grand divisions of the earth.

These mountains bordering the ancient ocean supported the vast vault which spanned the heavens. Above this vault was the home of the superior gods. From their hand direct

came light, and heat, and dews, and rains, and all other blessings; and, when the gods were angry, winds, and storms, thunderbolts and earthquakes. The sun and stars were made expressly for man, as were the seasons, with seed-time and harvest. The earth rested upon pillars, while under it were immense fires, in which the demons were confined, and here the wicked were doomed to dwell; while above the vault were the Elysian fields, the home of the blest.

This wild astronomical and theological theory of creation was the prevailing idea among all peoples, five and six thousand years ago. Indeed, the true theory in regard to the solar system has been taught by the learned but a little more than three hundred years, the great mass of the uneducated still entertaining a belief in the ancient system, and are still quoting their sacred books in confirmation of it. The Phœnicians taught this flat-earth-and-vaulted-firmament theory at home, and in all their colonies. It was a part of the religious belief of all the nations bordering on the Mediterranean. It was believed by the cultured Greeks, as by the more modern Romans. The whole system of theology of all these nations was built upon this idea; and this was also true of the Hebrews, as their books furnish incontrovertible evidence. True, Herodotus, the Greek historian, ridiculed this teaching, and wrote:

"I cannot but laugh, when I see numbers of persons drawing maps of the world without having any reason to guide them; making, as they do, the ocean-stream to run all around the earth, and the earth itself an exact circle, as if described by a pair of compasses."

The reader will please remember that this was the idea entertained by him who gave us a history of the "flood," the "opening of the windows of heaven" through which to let down the rain, and the breaking up of "all the fountains of the great deep." This conception of the deluge came from Indus; it was as old as the most ancient civilizations; but it had been modernized with advancing thought as was the story of William Tell—as have all the myths which the learned have exploded—their origin lost in the sands of time, so antiquated that no one can trace their beginning, or learn when they were not believed as facts.

The mythical teachings in regard to a general deluge are not the only fabrications which have puzzled humanity, and, because of being interblended with a religious education,

have paralyzed investigation through many generations. The Egyptians taught that the world would be alternately purified by water and fire; that these were parts of the system which the Creator employed to prevent man from growing in power, and gaining a mastery over him! The teachings of barbarian races, slightly changed, have survived the ages; they have entered into the religious beliefs of the world, and will be as difficult to eradicate from the common mind as any other inherited error of so ancient an origin. Thos. Moore has well written:—

"The lover may
Distrust that look that steals his soul away;
The babe may cease to think it can play
With heaven's rainbow; alchemists may doubt
The shining gold their crucible gives out;
But Faith, fanatic Faith, once wedded fast
To some dear falsehood, hugs it to the last."

It is to be regretted that scientists are not permitted, without subjecting themselves to sectarian abuse, to pour in a flood of light upon the ancient fallacies which have crept into all our early teachings. Were they at full liberty to give the public their honest thoughts we should soon have a truer conception of the past, and a more exalted idea of the future; but ere that "good time coming" shall dawn upon the world, it is possible that many years may intervene.

Commencing with the story of creation, as borrowed from the Hebrew writers from countries where they had been slaves, wherein it is represented that the whole planetary and stellar systems are the out-growth of six days' labor, (not the production of a single mind, as the English reader finds it in his translation; but the task of *many gods*, as a correct rendering of the Jewish narrative, will show), with all the long incidental errors, following this first incorrect teaching, and ending with the looking forward to a general destruction of the material universe, when a grand conflagration will envelop all in universal ruin; when earth, and moon, and sun, and stars, will be "rolled together as a scroll," and disappear, while darkness and chaos succeed the present order of things, much is found that needs revision. He who is sincerely honest is hopeful that the day will not be too far distant when every false teaching shall receive that consideration it deserves; when every myth shall be exploded, and the sunlight of Truth shall illuminate all the dark corners of the world. This grand consummation of desire will usher in the *real* millenium, when "knowledge shall run to and fro as the waters cover the great deep."

THE BIRDS OF PREY OF NOVA SCOTIA.

By J. BERNARD GILPIN, A.B., M.D., M.R.C.S.

IN making this list I have personally identified, with one or two exceptions, every species in it. I will not say that no other specimen may be added, but that if hereafter noted, it will be a very rare one to have escaped my notice of more than thirty years. Personal identification of each species also by the writer, even if in a narrow limit, adds always to the interest and value of a paper. In classification I have used Key to N. American Birds, by Dr. Coues, 1872, of the value of which it scarcely needs any mention from me. I have found, with one or two exceptions, all the birds of this Order common to North Eastern America, in Nova Scotia, and noticed those I expected to find and failed. From their nature and food they are rare everywhere, and one who has witnessed the scarcity of all animal life in our forest, and the little bird life even in our cultivated fields, is not surprised by finding a greater scarcity of this Order. The innumerable flights during the autumn of what are called shore birds, chiefly composed of the Genera TRINGA, TOTANUS and closely allied species in their autumn migrations, attracts numbers of the Genus FALCO. Our marshes, especially after mowing, which lays bare the runs of field mice, and the haunts of frogs, snakes and other reptiles, attracts the harriers and buzzards, and the sea shores of the Bay of Fundy, at ebb tide, left in far-reaching and muddy flats abounding in stranded fish, bring the eagles and fish hawks for their prey, the latter seizing its living prey from the shallow pools, whilst the former, when not plundering the fish-hawk, contents himself with the dead and stranded fish. Except the grouse, the hare, and perhaps shrews in the depth of the winter forest, or a white weasel or jay bird, or a red squirrel now and then, the stern winter has locked in snow and ice everything that makes food for the few owls that hibernate with us. The few eagles and fish-hawks I have dissected, I have found fat, even in winter; the hawks generally thin. I have never identified any kites in Nova Scotia, but my son has observed fork-tail hawks in the air, which I have also seen, but very rarely, most probably the Genus NAUCLEUS.

LIST OF RAPACIOUS BIRDS OF NOVA SCOTIA.

FAMILY STRIGIDÆ—(Owls).

Bubo Virginianus—Great horned owl.*Otus vulgaris* (var. *Wilsonianus*)—Long-eared owl.

Brachyotus pebestrus—Short-eared owl.
Syrnium lapponicum (var. *cinerium*)—Great grey owl.
Syrnium nebulosum—Barred owl.
Nyctea nivea—Snowy owl.
Surnia ulula (var. *Hudsonia*)—Hawk owl.
Nyctale Tengmalmii (var. *Richardsoni*)—Tengmalm's owl.
Nyctale Acadica—Saw-whet owl.

FAMILY FALCONIDÆ.

Circus cyaneus (var. *Hudsonius*)—Marsh hawk.
Accipiter fuscus—Sharp-shin.
Accipiter Cooperii—Cooper's hawk.
Astur atricapillus—Goshawk.
Falco sacer—Jerkfalcon.
Falco communis—Duck hawk.
Falco columbarius—Pigeon hawk.
Falco sparverius—Sparrow hawk.
Buteo borealis—Red tail hawk.
Buteo lineatus—Red shoulder hawk.
Archibuteo lagopus (var. *Sancti Johannis*)—Rough legged buzzard.
Pandion haliaetus—Fish hawk.
Aquila chrysaetos—Golden eagle.
Haliaetus leucoccephalus—Bald eagle.

You will find in this list, taken as regards its nomenclature from Coues' Key, that many generic as well as specific names are changed from Wilson, Audubon, Nuttall, Richardson, and even Baird, or other recent writers. The greatest change is with the specific. Whilst we accept the changes from the older authors as the necessary progress in the science, yet we can see in the differences from the modern ones that one principle rules them, a nearer return to truth, to the principle of returning to the specific given by the first discoverer of the species, allowing him the exclusive right of naming, and finally in birds almost identical in both continents the allowance of geographical variation from one common origin. This of course is the most philosophical way of settling points beyond our reach. Field naturalists can scarcely be allowed the privilege of criticising, which must be the result of intimate knowledge of large collections and libraries, and, as respects the author of the Key, still larger experience of field life. Yet one may be allowed to say that anything that reclaims the science from the divisions of sub-families and sub-genera, and innumerable lists of synonyms made, not for truth but for personal exaltation, must be hailed with pleasure by all true naturalists. Of the family of owls which inhabit our Province, the Halifax museum, with the exception of the great grey owl (*S. lapponicum*), contains an excellent collection of every species I have identified myself. The great grey owl was taken some years ago in Pictou County, and a specimen was in the collection of the late Dr. McCulloch, of Pictou town. This is the only recorded instance I know of its being here. The great horned owl (*B. Virginianus*)

is common. It both breeds and winters, usually keeping in the thick forests, seldom coming out in the clear country. I have seen its young in the spring, and the adult at all seasons of the year. A specimen shot at Digby, Feb. 1876, when feeding upon a black duck, was nearly white, washed by pale ferruginous, and barred and spotted light brown. The pure white chin remained unchanged, as it has done in every individual I have examined, how much otherwise the plumage may have been altered. Though not resembling Richardson's figure, I thought it may have been the Arctic variety. Our camp fires attracted them when camping on the shores of a forest lake in Digby county, Sept., 1871. By answering their wild feline cries, we kept them about us the long night, unseen, yet continually shifting from one spruce fir to another, amongst which our camp was pitched. Their prey is nocturnal, and thus less likely to be known. Grouse, hare, and even ducks may be readily captured by this powerful bird, which uses its beak as well as its claws in destroying life. A poor pet crow, the favorite of the village at Annapolis, visiting every house for its bone, and sleeping now in an old porch, now in an unfinished church, or under the eave of inhabited houses, alarmed the inmates, beneath whose eaves it had sought a roosting place, by its shrill cries one calm midnight. On going to its rescue a large nocturnal bird of prey floated away. At sunrise it was found dead on the grass beneath, no doubt a victim of this powerful nocturnal prowler. Of the short eared owl (*B. palustris*) and the long eared owl (*O. vulgaris*), they may be said, though not rare, still not very common. I have Mr. Downs' authority that the short eared nests in Nova Scotia, near Halifax. Probably both do, yet the number of both that appear during winter proves migration to be the chief cause of their presence with us. Of the barred owl (*S. nebulosum*), my notes give May, as the month I identified him in the breeding season. I have no doubt he winters with us, but my notes have no monthly dates. The hooting of this owl comes down on the night wind to you like the loud broken laughter of many men. A stranger would easily suppose he was near a large logging party. The majestic snow owl (*N. nivea*) I do not think nests with us. He is usually a winter visitor, though I saw him once, August, 1854, on Sable Island, with all his feathery alpine plumage, sitting upon the hot sand, the snowy, thick muffled claws

reposing on sand that heated your touch. A few years after the island had been stocked by domestic rabbits, this bird made his appearance, in 1827, and ever after paid it an annual visit. I saw him patiently watching the burrow mouth, instantaneously to seize its emerging owner. He is usually our winter visitor, and like other species sometimes comes in flocks. In the winter of 1876 Mr. Egan, at Halifax, had fourteen specimens at one time. The settlers told me they sat like pigeons upon their barns, coming out of the forest at dusk. There had been no storms or local reasons for this migration which extended into New England. The hawk owl (*S. ulula*), is also a winter visitor. He shows himself sometimes in flocks. Some years ago there were more than a dozen brought into Halifax, then not seen for years, and of late returning singly. Of Tengmalm's owl (*N. Tengmalmi*) I have seen but few specimens, and believe it very rare. Four are the utmost I have seen in Nova Scotia. The Saw-whet (*N. acadica*) is common and resident, keeping the deepest forests as his abode, frightening the Indian at his bivouac, who never will answer him or allow any one to do so in his camp, for fear of impending misfortune. Yet he, too, appears sometimes in flocks in the open. During the spring of 1879, Mr. Egan had numerous specimens offered him. The little red owl (*S. asio*), so common in New England and also in Newfoundland (Reek's Zoologist, 1869,) I have never seen here, in which Mr. Downs joins me. In its migrations it passes perhaps north of us. In ending my remark on our owls, I may say that about four have been identified as nesting with us, the others are winter visitants, and that with the exception of the Great grey owl, there are excellent specimens of each species in the Halifax museum.

In passing to the diurnal birds of prey, the FALCONIDÆ, we find more power and strength developed in each individual, though denuded of their soft coating; the hind toe (in the owls very small comparatively) greatly increased, a greater propensity to use the claw than bill, and a greater ardour of temperament, and power of wing action. This family naturally separates itself into the harriers, the falcons, the hawks, the buzzards, and the eagles. I mean as regards Nova Scotia, since the kites and vultures never come to us. Of the harriers, resembling the owls in a facial circle, we have one species (*C. cyaneus*), a geographical variety of the old world harriers.

(To be Continued.)

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VOL. II

WILLIAM COUPER, Editor.

THE GAME LAWS OF THE PROVINCE OF QUEBEC.

A NATURAL HISTORY REVIEW.

It is notorious that for many years past Game Laws have been in force in the Province of Quebec; that these laws were repeatedly amended and even at this instant they are imperfect; that on all former occasions the alterations sought for were brought forward by parties who knew very little of the Natural History of the animals which are said to occur in the Province. In the Bill now before the Legislature of Quebec there is the heading *Moose, Deer, Elk, Caribou*. Now, to make the matter plain, the word DEER includes all which are hunted for venison. We have in this Province, four species of deer, viz.: the Elk, commonly called and known as Moose; two of Caribou and the Virginian Deer. These quadrupeds are invariably confined to certain localities, each having ranges of various extent. For instance the Virginian Deer has not a wide range in Quebec, and it may be now accidental in places where it was formerly abundant. The cutting down of forests accounts, in a great measure, for its disappearance. The Elk or Moose is also similarly situated, because its chief food consists of moosewood and aquatic plants; it is also extremely fond of mountainous regions, especially where there are lakes, which are not frequently visited by man. The deer known as Caribou of which we have two species, are generally confined to high latitudes, and it is only during winter that man can approach them. To make the Game Laws perfect, these animals should be indicated in the Act, by placing the scientific after the local name of each species—as Elk or Moose, (*Cervus alces*); Woodland Caribou, (*Rangifer tarandus*); Barren-ground

Caribou, (*Rangifer Greenlandicus*), and the Virginian Deer, (*Cervus Virginianus*) This would make the law definite with regard to these animals. Confusion will certainly arise from this nomenclature when not framed in a manner to be clearly understood by the sporting people of the Province. Greatly as are the inhabitants of the United States ahead of us in some matters of this nature, they will call animals by wrong names, for instance the large deer or Wapiti (*Cervus Canadensis*) of the Rocky Mountains, is vulgarly named Elk, while the latter is the animal we call Moose in Canada, and which is scarce near the Rockies. In the French and English copies of the Act, the word Pekan occurs. Now, surely, if the framer of this Bill went to any trouble, he would have discovered that this is the animal commonly called Fisher by English people, *Mustela Canadensis* of naturalists, and not the WILD CAT (*Chat sauvage*). Well, what animal have we here? We are told that it is the Raccoon (of uncommon occurrence in this Province). There is another common animal called Lynx (*L. Canadensis*) which is also called *wild cat* by country people, and although there is no true wild cat found in the Province of Quebec, it occurs in Ontario. As for Muskrat, there is no greater nuisance among the quadrupeds of this country. It burrows under the banks of rivers, making numerous holes whereby the fertile lands of the farmer (especially if a stream is overflowed in Spring), are destroyed; however, if all parties are satisfied with the protection of this animal, we are.

Regarding the feathered game, no bird called Partridge exists in this latitude. There are five species of Grouse occurring in the Province—i. e. the Ruffed Grouse (*Bonasa umbellus*), Sharp-tailed Grouse (*Tetrao pedioecetes*), rare in the valley of Lake St. John, Upper Saguenay; Spruce Grouse (*T. Cana-*

densis), two species of Ptarmigan (*Lagopus Americanus*), and (*Lagopus rupestris*), both winter visitors; the former common, the latter rare. Wild Swan should not be included in the Bill as all the North American species are *rara avies* in this Province. The Canada Goose (*Bernicla Canadensis*) is a wild goose; the Widgeon (*Mareca penelope*)—a rare visitor in Quebec—and Teal (of which there are two species) deserve protection. The Black Duck (*Anas obscura*) is certainly the duck of the sportsman, because it is the most game and prolific of all the wild ducks. The Mallard, Canvas-back Duck and Pintail are not specially protected although they are sometimes abundant on Quebec waters. But as this Bill protects all the wild ducks (fish and vegetable eaters) we will not further pause to point out mistakes in regard to what constitutes aquatic game. There is a vast difference between birds (ducks) that are good food and those that are not, the latter are allowed by law to live and destroy the fry of salmon and other valuable food fishes. Why this portion of the Bill is not properly put together, we cannot understand. The laws of Ontario regarding wild ducks, merely protect those that are thoroughly game, such as Mallard, Black Duck, Wood or Summer Duck, and Gray Duck, the latter, so far, is not identified or determined. All other species are classed as sea ducks, although not game, they are protected between 1st May and 15th of August. We are as anxious as the Provincial Government to protect insectivorous birds, and would be greatly pleased to see this portion of the Bill perfect. There are birds in this section of curious nomenclature—"Grives," we know them not. "Cow buntings,"—thank Providence, there is only one species in Canada; it is a parasite: a robber among its kind, and if the Hon. framer of the Bill, knew what it was, he would not have classed it as he has. "Bobolinks," the Rice Bird; what is extraordinary is that in the Hon. Mr. Flynn's

Bill, the scientific name given to this bird is not correct, (*Dolichonyx oryzivorus*), of dear old Swainson is now converted into *Dolichonyx orizivorus* by a Quebec legislator, and to add agony farther, the Starling (commonly known as the Marsh Blackbird), our two species of Grackle and the two species of Grosbeak (one a winter, the other a summer visitor), are classed as insect eating birds. We can prove that certain species of FALCONIDÆ or Hawks are insectivorous; that Crows, Waxwings and Shrikes are insects destroyers, and furthermore that we have two species of Shrike in the neighbourhood of Montreal—the Loggerhead (common), and the Great Northern Shrike (rare), both of which destroy insects during certain portions of their residence with us. By the way the latter is another species to which the scientific name is given wrongly. Compare text of the Bill. C.

THE NEW GAME LAWS FOR THE PROVINCE OF QUEBEC.

A bill to amend and consolidate the Game Laws is now before the Quebec Legislature. The principal changes are as follows:—

Moose, Caribou and Virginian Deer.—Present close season, 1st February to 1st September; proposed close season, 1st January to 1st September.

Wild Ducks and Geese.—Present close season, 1st May to 1st September, west of Three Rivers, and 15th May to 1st September east of Three Rivers; proposed close season, 1st May to 1st September throughout the Province.

Ruffed Grouse.—Present close season, 1st March to 1st September; proposed close season, 1st January to 20th August.

Canada Grouse, Ptarmigan.—Present close season, 1st March to 1st September; proposed close season, 1st February to 1st September.

Hares, snaring (this is permitted by the present Act) to be prohibited.

By the new Act, all persons who shoot are required to take out license, non-residents of the Province to pay \$20 for a license to hunt

any kind of game in each district; residents to pay \$1 to \$2 for each district. License good for the whole Province, \$50.

The proposed amendments in regard to the close seasons are to be desired, and if the Spring shooting of Black Duck, Mallard, Wood Duck and Teal were prohibited, the Bill, in this respect, would meet the views of most sportsmen. Numbers of Black Duck and Wood Duck breed in suitable localities throughout the Province, and many more would, doubtless, remain to nest if protected in the Spring, as they commence nest-building early in May, and the full number of eggs is usually deposited before the latter part of that month. It is true many nests are found as late as the middle of June, but this is the result of the birds having been disturbed in Spring and prevented from occupying the places they had first selected, as in the most Northern parts of the Province, where they have been undisturbed, nests have been found as early as the 15th May. The first principle of all laws for the protection of game is that the quadrupeds and birds protected should not be disturbed at those particular seasons defined by Nature for the perpetuation of their species. It is obvious, therefore, that it is wrong to permit the shooting of these ducks until 1st May, as they have paired and selected their places for nesting long before that time. The proposed division of the Province into districts, and the imposition of a license fee for the privilege of shooting, is not likely to meet with much favour from sportsmen, who have already to pay pretty dearly for the privileges they enjoy. The confusion likely to arise from this division, and the impossibility of collecting the tax impartially will make this portion of the Bill most unpopular, not only to sportsmen, but to farmers and others who, from time immemorial, have been accustomed to enjoy a little shooting in their spare time. The necessity of securing a Government license to hunt on their own farms, cannot but seem arbitrary;

and we fail to see any good to be derived from the imposition of this tax as the resources accruing therefrom will be more than consumed in the cost of collection.

A careful revision of the Bill is necessary before its final reading as several omissions occur, and the use of local names may lead to some confusion.

A MYSTERY.

A magnificent adult Moose head was lately sent by W. F. Lewis, Esq., of this city, to me to stuff. There is a mystery about the ears of this head. Each ear has three deep cuts longitudinally from the apex towards the base. The edges of the cuts are *healed and covered with hair* similar to the outside margins of the natural ear. Who or what cut the ears of this Moose, and what was the animal's age when these cuts were made? The head was sent from Pembroke by Messrs. T. & W. Murray to whom I wrote asking if they could give me some information regarding these ear-cuts, suggesting that at one time (probably when young) the animal may have been the property of some one who had it partially tamed; that the cuts were then made as marks of identity, and that it afterwards escaped to the woods. I have had deer heads with fresh ear-cuts which were done by the hunter after the deer was shot, but this one is the first instance of the kind coming under my notice. Messrs. Murray say:—"We do not think that it was ever tamed as there are no settlers in the section it was taken from. The Indians might probably keep one a short time when young, with a view of taking it where it could be disposed of alive, but they very seldom keep them any time." I may probably have some further information regarding these cuts. They do not represent wounds made by a quadruped; they resemble cuts made with a knife; but when and where they were made, is the mystery.

C.

ORNITHOLOGICAL QUERIES.

In former numbers of this journal we have asked for information regarding the economy of certain birds inhabiting Canada, of which very little is known. The natural history of the following species appears to us, worthy of further investigation.

The Gray Sea Eagle or Ern (*Haliaetus albicilla*) It was described by Cuvier. Now, there is a doubt expressed by American ornithologists as to its being a true species. An eagle resembling the European Ern occurs in Canada to which the name Gray Sea Eagle is applied, but some persons contend that it is only the young of the Bald Eagle. Mr. R. Rowe, of St. John, N.B., writes to ask "If the female of *Haliaetus leucocephalus* (Bald Eagle) has plumage same as male—i. e.—with white head and tail. I am inclined to think that the female has not the white head and tail. I saw a pair this fall, one had head and tail like snow, and the other which I concluded was the female, was brown. I am speaking of course of mature plumage. If I had had my rifle with me at the time, I believe I could have killed the two, as they were not twenty yards from me, and both in a line sitting on an old stump." Can any of our correspondents inform us if the Northern Sea Eagle (*H. pelagicus*, Siebold), has been shot in Canada? These three eagles are evidently mixed up in such a way that it will take some time to separate them properly. Have ornithologists compared the eggs of *H. pelagicus* with those of *H. leucocephalus*, or can the egg of *H. albicilla* be produced as identified?

Golden-crested Wren, (*Regulus satrapa*, Licht.) I saw this species feeding its young at Mingan on the North Shore of the Lower St. Lawrence. Has its nest been found in Nova Scotia, New Brunswick or the Western portion of the Province of Quebec?

Tit Lark (*Anthus ludovicianus*, Licht.) This species visits the Provinces of Ontario and Quebec in the Fall; is said to nest in high latitudes. The bird is terrestrial and possibly the nest may approach the form of that of a *Melospiza*, and may therefore be overlooked. I have never noticed the Tit Lark in Ontario or Quebec in Summer, hence it is questionable if it nests in the vicinity of latitude 46.

Blackburnian Warbler (*Dendroica Blackburniae*.) This pretty warbler passes north through our forests about the middle of May. Has its nest been found in New Brunswick or Nova Scotia? I saw numbers of this

species in the woods of Labrador on the 17th June; but could not discover the nest. I found the nest of the Black and Yellow Warbler (*D. maculosa*) at Natashquan on the latter date.

The Evening Grosbeak (*Hesperiphona vespertina*, Bon.) Occurs in Western Ontario. Can any of our correspondents send us a description of its nest, and the geographical range of the bird in Canada? How far East has it been noticed in Ontario?

The Pine Finch (*Chrysomitris pinus*, Bon.) Has this bird been found breeding in Canada?

The Lesser Red-poll (*Aegiothys linaria*, Cab.) Two species of Red-poll are sometimes common in the Province of Quebec in the Fall, but I have not yet met with a person who found their nests in Canada.

The Sea-side Finch (*Ammodromus maritimus*, Sw.) Can any of our Nova Scotian or New Brunswick ornithologists inform us if this finch breeds within their Provinces? I found nests of a finch on the Labrador coast which I took for this species, but at the time had no facility to identify them.

The Tree Sparrow (*Spizella monticola*, Baird.) This is another species which appears in the Province of Quebec. It passes north in April. The Fall birds are mostly all young. Probably their nest in the woods on the Laurentian Mountains. I would like to obtain information regarding the nest of this species.

The Magpie (*Pica Hudsonicus*, Bon.) This bird is said to frequent the vicinity of Lake Superior. Has its nest been discovered near the latter region? C.

BULLETIN OF THE NATURAL HISTORY SOCIETY OF NEW BRUNSWICK.

The first proceedings of the Natural History Society of New Brunswick are before us; the matter, scientifically viewed, is fully equal to that issued by older institutions. It contains a catalogue of the birds of New Brunswick, by Mr. Montague Chamberlain, who appends brief notes relating to their migrations, breeding, &c. The discovery of the breeding localities of birds forms the most important research in Ornithology at this age of human inquiry, and a compiler of matter relating to this portion of American bird history, should certainly be encouraged in order to have it authentic. From Mr. Chamberlain's notes we obtain new information regarding a few species which were heretofore considered mysterious as to their breeding places, and we wish

other Oological students to follow his example and penetrate the primitive forests of New Brunswick to add additional facts to this excellent list. The Society's Committee on Botany have made a good beginning in issuing a list of plants found within the Province, and we have no doubt that through the exertions of MESSRS. Hay, Chalmers and Vroom, the Flora of New Brunswick will be as thoroughly worked up as the birds have been by Mr. Chamberlain. The Bulletin is creditable to the Society and printer, and doubtless No. 2 will contain matter of similar interest.

REVIEW.

THE FARMERS' ADVOCATE, published at London, Ontario. The April number of this serial contains two handsome engravings (specially designed for the journal), and is replete with matter interesting to the Agriculturist. Subscription, \$1.00 per annum.

We call the attention of those of our readers who are fond of the Rod, to the advertisement headed "Sportsman's Retreat," in this issue. Our friend should have a full house during the season; guests are promised plenty of sport.

Correspondence.

To the Editor of THE CANADIAN SPORTSMAN AND NATURALIST.

DEAR SIR,—Referring to your "Ornithological Queries" (just the thing that is wanted, and answers to which I shall look forward to with much interest), perhaps it will not be uninteresting to lovers of Ornithology to know that last week was shot on the Belvedere Flats, about twelve miles from this city, a fine female specimen of the Trumpeter Swan, (*Cygnus buccinator*). It was very thin, but in excellent plumage, entirely white with the exception of head and neck, which had markings of a very light rusty brown, so light that at a distance of a few yards the whole bird appeared white. Measurement from tip to tip of wings, 6 feet 6 in. By the slight markings on the head and neck, I concluded it was a young bird. This appears to be quite a *rara avis* in these parts. Last fall, there was killed

at Dick's Lake, N.B., a Florida Gallinule, (*Galenula galeata*.) At Musquash, N.B., seventeen miles from here, on the 4th April, last year was shot the Purple Gallinule, (*Porphyrio Martinica*), and another last September at Quaco, N.B.; the latter was in fine feather, and appeared to be a young bird. Several Green Heron (*Ardea virescens*), were taken last September at Brier Island, N.S.* At same time were seen large flocks (?) of the Scarlet Tanager, (*Pyrauga rubra*), and Baltimore Oriole, (*Icterus Baltimore*). We have had also, this spring, quite a flight of Cross-bills, both the red (*Curvirostra Americana*) and the white-winged (*C. leucoptera*). The pine Grosbeak, (*Pinicola Canadensis*), is frequently found in this Province, but whether they nest here or not, I have been unable as yet to determine. With the exception of the flocks of Tanagers and Orioles mentioned above, I have seen all these birds *in the flesh*.

I am, yours truly,

R. ROWE.

St. John, N.B., 10th April, 1882.

* An island in the Bay of Fundy, at the S. W. extremity of Digby Neck, on it is a lighthouse.

NIDIFICATION OF NUTHATCHES.

SIR,—When I wrote the article published in the April number, I stated that I had not seen the nest or eggs of *Sitta Canadensis*, and in a note to Mr. Dunlop, giving some of my observations regarding the nidification of Nuthatches, I stated that on one occasion I had seen the nest of this bird—*Sitta Carolinensis*—in a cavity of a decayed tree, like that of a wood-pecker. Subsequent investigation amid the wild haunts of these birds, proves that the red bellied species are far more numerous than I had supposed, and a review of my observations, taken at the time, now makes me confident that the nest referred to belonged to the latter bird. It was in the early part of June 1866, I was cutting down timber on the margin of a beaver meadow where the wood, mostly balsam, cedar, and white wood (linden), was thick. I happened, among others to fell an old linden stub, and to my regret and the great distress of the parent birds, found that it contained the nest of a Nuthatch, in which were three young ones, which were nearly killed by the fall of the tree. The cavity in which the nest was placed was about twenty feet from the ground, made like that of a wood-pecker or chickadee, and not more than

eight or ten inches deep; this excavation, I have no doubt, was the work of the birds themselves. In the bottom was a small quantity of fibrous, woody matter. This nest was altogether different to any of the Nuthatches that I have seen, and it struck me at the time as very peculiar. I also noted that the birds were darker in color, and their notes considerably different to those commonly observed in the high, hardwood lands, but until years afterwards, when I procured a copy of "Ross' Birds of Canada," I was not aware that the Red and White-bellied birds, were distinct species. Since then I have observed that the habitat of *Sitta Canadensis* is generally the deep evergreen woods, and lately, I note, that its call is louder, more prolonged and plaintive than that of its white-bellied congener, which latter is partial to the hardwood regions, and always makes its large nest (formed of moss, fibrous bark and hair) in the natural hollows of trees. Years ago I had observed some of these birds excavating cavities in old stubs, generally softwood timber, and that in the fall of the year, they laid up a supply of different kind of seeds in such place; I am now disposed to believe that this was particularly the work of the Red-bellied species.

W. L. KELLS, Listowel, Ont.

SUPPOSED NESTS OF THE CROSSBILL.

On the 10th of April, when taking a ramble for ornithological purposes, with my two boys, in a cedar swamp, north of this town, I noticed a number of nest-like structures, placed on the branches of cedar and other evergreens, generally about twelve to twenty feet from the ground. I had often, in different places, noticed similar structures before, always in the early spring, and knowing that these had been made in the winter, supposed that they were the work of some squirrel. On the above date, however, curiosity led me to examine several of these structures more closely, and to my surprise, I found that they were the nests of some birds, and had evidently been recently occupied. Compared with the size of the bird that must have built and occupied these hut-like formations, they were large. One which I brought home, measured two feet six inches in circumference; yet the inside cavity was only about four inches in diameter, and the entrance showed that the body of the builder was about the size of that of the pine finch. The outsides of these nests were formed of moss calculated to keep out cold, and throw off the

rain, while the inside was thickly lined with the soft fibrous dry cedar bark, and in some cases, small quantities of hair. The materials of the entrance were of such quality and arrangement as to almost close when the occupant went in or out, and it would appear also that it was the intention of the owners to cover the contents when they found it necessary to leave it for the purpose of procuring food. For a while I was puzzled to know what species of the feathered race had made these nests, and therein reared their young in the midst of our cold and stormy winters. I then recollected and re-read the article in the last February number by Dr. Garnier, on the Crossbills, the mystery was solved. These moss-made hut-shaped structures were the nests of *Loxia curvirostra*. I then recollected that in the winter of 1866, and following years, I had observed these birds in flocks in the barn-yard and among the evergreen woods of North Wallace; where also I first noticed those curious nests, but never thought they were the habitations of birds, or that any bird could rear their young at such a season of the year in our climate. Lately a neighbour informed me that he saw the nest of a bird with four young in the month of March, but could give no information as to the species or formation of the nest. It was, of course, a crossbill. I did not see any of these birds this season, they had evidently departed northward before my advent among their winter homes. I hope another season to see their eggs.

W. L. KELLS, Listowel, Ont.

Sitta Canadensis. When I first discovered the nest of this bird, both male and female were busy gathering soft material to complete their nest; the spot selected for this purpose being a hole in a dead tree, about ten feet from the ground; the hole, however, was not the work of these birds, but one which had probably been made by a squirrel or woodpecker some seasons previous, the cavity being about fourteen inches deep. *Sitta Carolinensis*. As the northern limit of this Nuthatch, as a winter resident, is somewhat indefinite, I might mention the fact that one was taken at Westfield March 10th, 1882.

HAROLD GILBERT.

St. John, N.B., April 23, 1882.

DEAR SIR,—In answer to your query in the March number of the SPORTSMAN AND NATURALIST, concerning the nesting of *Antros-*

tomus vociferus (Bp.), I can say that I have found several nests in the Province of Quebec, in latitude 46° . The bird is quite common in the County of Ottawa, P.Q. Mr. W. P. Anderson tells me that he found both the Whip-poor-Will and the Night Hawk very common in the North-West Territory, some distance north of latitude 49° . Can you tell me whether there is, so far, any record of the Western Grebe (*Podiceps Occidentalis, lawr*) being taken in Ontario or Quebec? Prof. Macoun, I think, found it north of Winnipeg. Mr. George White, of this city, shot a pair near here last season, but the skins have unfortunately been lost.

W. L. SCOTT.

Ottawa, Ont. April 26, 1882.

NOTE.—The Western Grebe occurs rarely in the Province of Quebec. I purchased one in the Quebec market.—C.

THE BIRDS OF PREY OF NOVA SCOTIA.

BY J. BERNARD GILPIN, A.B., M.D., M.R.C.S.

He is common, and most probably breeds with us, as he is seen during that season, but I have no note of his nesting. He leaves us during November, the swamps then being frozen, and the mice, reptiles and snakes, his usual food, hibernating. He is seen beating our new mown fields and swamps, but never hunting the shores abounding with shore birds. The females and young are much more abundant than the slate grey male. In his habits he resembles the buzzard, as he does somewhat in bill and claws. In the next family of hawks we have the sharp-shin (*A. fuscus*), Cooper's hawk (*A. Cooperi*), and the Goshawk (*A. atricapillus*). The sharp-shin is, perhaps, our common hawk. I have noted him in May and in December. Little doubt he breeds with us, though I do not know his nest. Though slenderer than the falcons, his bill lighter, and upper mandible scarcely notched, he is by no means their inferior in audacity and headlong pounce. One broke the glass of Mr. Downs' aviary in attacking a canary, seen through. He will often attack caged birds hanging in country houses, and even enter the city for the same game. Cooper's hawk (*A. Cooperi*), an enlarged model of the last, is very rare. I am indebted to Mr. Egan for notes of one specimen mounted by himself and afterwards sent home to England. I have never seen it myself. The Goshawk (*A. atricapillus*) is common and seen during the

breeding season, though I have not seen it in time. A pair wintered near the light-house at Digby Gut, 1880; but this is unusual. The vicinity to the sea would make one suppose they lived upon fish. Few hawks of any species, save eagles, are seen after December, even the fish hawks leaving. One would suppose a duck upon the water would be an easy prey for them, and our winter shores are covered by them; but I have never heard or have read of any hawk making like the fish-hawk what may be called a water pounce. The Goshawk is the type of the great hen hawk of the farmers' wives. He comes out in the open, is not seen beating marshes like the buzzards and harriers, or the sea sands like the smaller falcons, but prowls about the homesteads, coming suddenly with the swiftness of the gale from nowhere, and sweeping a hen or chicken from the very feet of its owner, gone as suddenly as it came, and losing in the deadly rush for a time that caution and wariness which ever keeps him from the vicinity of man. The next Family are the Falcons; a more powerful organisation comparatively; a keener ardor and untamed spirit; the habit of taking their prey with a pounce from a tall tree, or perpendicularly from the air, rather than hunting along the surface; a stronger, shorter, and peculiarly notched bill, and pointed wing, define this family as it were abruptly from the others. It is the type of the highest excellence of the whole order. Of six species inhabiting North America, four are found in Nova Scotia; two probably nesting, the others rare, and as respects the jertalcon accidental visitors. In *F. Sacer* we miss the old name so long given by naturalists to the falcon of antiquity, but bow to the law that gives to the first scientific discoverer (Forster) the right of the specific name. Of this historical bird, the companion and pet of mediæval princes, the subject of the ancient pseudo science of hawking, with all its complex phraseology, I am indebted to Mr. Downs for my sole note. One specimen was mounted by him some twenty years since, being taken by a vessel on the coast and brought to Halifax, and a second specimen is exhibited this evening by him. They are not uncommon at Newfoundland, being called white hawks, and sometimes stray south of us, into New England doubtless taking the inland route. The duck hawk (*F. communis*), and here again we lose the fine old name *peregrinus*, a bold and beautiful bird, with the eye, toothed bill.

and powerful claw of its race in the highest beauty and perfection in my experience, is very rare. There was a good specimen in the Halifax Museum 1870, and Mr. Downs has noted it. This falcon is the *anatum* and great footed hawk of American writers. The pigeon hawk (*F. columbarius*) is perhaps the most common hawk of our Province. My notes are September and November, but still I believe he nests with us or is found during the time of incubation. He is a true falcon, in dash, temerity and force. He will strike a duck upon the wing and lacerate and tear up the whole back and neck region so as to produce death. He occurs here with a variation of colour. In the Provincial Museum are specimens with four obscure whitish bars upon tail. A specimen in Mr. J. M. Jones' collection agrees with this; the bars broader. Another, shot by Mr. Alfred Gilpin, has five white bars, the fifth obscured by tail coverts. Another specimen, shot by John Baxter, Nov. 4th, 1880, has five dark bars crossing the tail, the fifth hid by tail coverts. In this specimen the colour was more plumbeous on back and rump and tail, and more whitish below. I have not specimens enough to show any analogy between the plumbeous coloured back and darker tail bars, and whiter colour below. Coues asserts the female has white bars, Reeks (Zoologist, 1869,) describes it at Newfoundland, as having dark bars. The question is also complicated by Richardson's merlin or *Aesalon* of the old world, very allied to this species, being found in America, though denied by Coues. We find this very active and bold falcon on the flats of the sea shores, pouncing aerially upon the TRINGA, TOTANI and other shore birds in their autumn migration. He lingers into November before he leaves us. There is no prettier sight than on a warm September day, in the Digby Basin, when the great Bay of Fundy tide has filled up to the very rushes the salt water estuaries and creeks; when the peeps and shore birds are like snowy drifts on the edge of the tide, waiting for the ebb; when the herons, coming full twenty miles from their heronry by the forest lake side, are roosting in awkward groups on the spruce pines and birches overhanging the tideway, also waiting for the ebb; than an instant alarm of shrieks from the herons, followed by an instant barking of the crows, rising and falling about the tops of the pines, disturb you, as floating in your canoe you are watching how a feathery gull, or an early scoter, is breaking the majestic mirror all around you.

Malti Pictou, your Indian, says, "May bee herons don't like the hawk"; and then, as you turn your eyes landward, you see the hawk sailing in short circles around and then with a sweep fetching down upon the herons, recovering himself and passing with lazily flap of wing slowly their roosting trees. He, too, is waiting for the ebb. The sparrow hawk (*F. sparverius*) is not rare with us; my notes of him are in September, but Mr. J. M. Jones allows me to say, he has seen them during the summer in the valley of Annapolis, with all the habits of a resident bird, and probably nesting. Its beautiful colouring and bold upright form and audacity makes him everywhere a marked species. Of the next family of buzzards, I have identified three species. This family, more robust than the last and more powerful in form, have less audacity, sitting for hours listlessly on a dead tree, living on the smaller mammals and reptiles which, flying low, they snatch rather than pounce upon, are still audacious plunderers of the farm yard. Of the Red-shouldered hawk (*B. lineatus*) I have only Mr. Downs' notes. I have never seen it. The winter falcon (*A. lagopus*) is seen rarely here. A specimen in the Halifax Museum agrees with Richardson's figure and description, the colours scarcely so bright. I saw one specimen of a black hawk in Mr. Roue's collection, at Halifax, 1870. It was alive and therefore could not be examined closely, but it looked so very unlike, in size and figure, the *lagopus*, that I could scarcely call it a nigritism of that bird. But still I have nothing explicit enough to call it a true species, especially as the best writers unite in not considering it such. I can not but think there is a lost hawk in this family. The Red-tail hawk (*B. borealis*) is a common hawk with us. My notes give him the middle of April, Summer and November resident, but leaving us in winter. Our specimens, in the finest nuptial plumage, differ from Richardson's description both in the colour of tail and breast. They have very much more brown and ferruginous on breast, and the tails of the brightest chestnut red, the two outer tail feathers obscurely barred. Richardson says of his specimen, killed at Carleton house, May, 1827, "The tail is brownish orange, tipped with soiled white, with a subterminal band of blackish brown there are also traces of thirteen other brownish bars."

(To be continued.)

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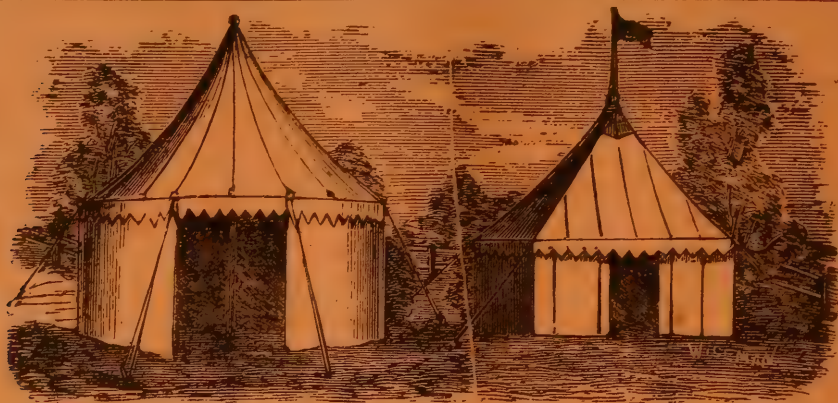
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THE

CANADIAN SPORTSMAN AND NATURALIST

A
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VOL. II.
No. 6.
1882.

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THE CANADIAN SPORTSMAN AND NATURALIST

No. 6.

MONTREAL, JUNE, 1882.

Vol. II.

WILLIAM COUPER, Editor.

TO HEALTH AND PLEASURE SEEKERS.

This journal is the best medium to advertise Sea Bathing localities and healthy inland Summer Resorts, especially where good shooting and fishing can be obtained. Our subscribers are generally gentlemen of means, and just the parties who visit new places annually to enjoy themselves.

THE CANADA LYNX.

(*Lynx Canadensis*.)

A subscriber writes to say "that Mr. Garnier is wrong in stating that the above-named quadruped have never been seen in the Peninsula (of Ontario I suppose) south of the Ottawa River!" He informs us "that they are still to be found in the County of Simcoe, and that he has found them in his own woods on Lake Simcoe. A remarkable fine specimen measuring very nearly *forty-three* inches from nose to tail was sent to him by one of his sons, shot in the County of Frontenac, near Skunk Lake, about three months ago. The two species, the Red Lynx (*Lynx rufus*) and the *Lynx Canadensis*, though resembling each other in many respects, yet have such distinctive characteristics, that they cannot well be mistaken for each other."

NOTE.—The Canada Lynx was not uncommon when we resided in Toronto about thirty years ago, and although its fur is used for robes, &c., and many are annually destroyed, it is not possible that it is annihilated in Ontario. The two species are arboreal, and as the woodlands are being cut down and farm lands extending, these animals, like many others, are pressed back to the mountain solitudes, where they can procure food and bring forth their young. This accounts for *L. Canadensis* being more abundant north of the City of Quebec, where large tracts of woodland are almost as primitive to-day as they were one hundred years ago. Our fur-bearing animals are doubtless decreasing, especially in the more cultivated and open portions of Canada. At one time, the Hudson Bay Co., although traders in furs only, protected these animals by a proper system, ordering the Indians to procure certain species during the season,

therefore allowing other species to multiply, thus they kept up the stock in a natural way. But of late years, hunters and fur traders visit the grounds which formerly the Company held within themselves. Now, fur-bearing animals are trapped by residents on the Labrador coast at all seasons. The Indian seeing his white brother doing this, as a matter of course, follows his example, but the result will be ultimately disastrous to the hunter and quadrupeds. The government should certainly stop people from killing fur-bearing animals out of season, and we are pleased to notice that the new Game Laws provides that "the Lieutenant Governor in Council may, in his discretion, prohibit the hunting or killing of any game or fur-bearing animals, for a period not exceeding five years." This is sensible, but at the same time, we have no objection to the muskrat being destroyed at all seasons when they commit havoc on a farmer's land by burrowing under creeks and rivers on his property, but martin, otter, mink and beaver should not be destroyed out of season.

The editor of this journal is not responsible for matter sent by correspondents. When manuscript is placed in our hands for publication, any statements therein, of which we have a doubt, will be invariably corrected before the compositor receives it. Were it not for our long absence from Ontario, Mr. Garnier's remarks regarding the Canada Lynx would have been noted at the time they were published.—C.

ORNITHOLOGICAL QUERIES.

The Canada Jay (*Perisoreus Canadensis*): A great deal has been written regarding the habits of this bird, but very little of its history is given during its nesting season. Its nest was found in Nova Scotia, Mr. Dickinson of Springfield, Mass., says he has eggs from the latter Province. It must nest about the same time as the Crossbills, as on my visit to Labrador, specially to obtain the eggs of this bird, I noticed the young in May, at a place called Watchshesho. They were following their parents, flying from tree to tree, but their heads were covered with white downy feathers, therefore, I must have found them in the vicinity of their nest. Can any of our

correspondents send us a description of the nest; the month of its completion; the locality and tree in which it was built? From seeing the young so early in Labrador, we think that the eggs must have been laid in March or April, when the land was deeply covered with snow. The stomachs of the young birds shot at Watchshesho were filled with a species of swamp cranberry.

Have any of our correspondents discovered a Canadian nesting-place of the Wild Pigeon (*Ectopistes migratoria*) of late years?

The Northern form of Sharp-tailed Grouse (*Pediceetes phasianellus*) occurs in the valley of St. John, Upper Saguenay in winter. Has its nest been found in Canada?

The Rock Ptarmigan (*Lagopus rupestris*) is also occasionally found in winter. The species evidently nests on the north coast of the Lower St. Lawrence. We would be pleased to hear from Oologists regarding the summer locality of this bird.

The Red-breasted Snipe (*Macrorhampus griseus*) is occasionally shot in the Province of Quebec, while on its western flight in spring. Has its nest been found in Ontario?

Jack Snipe (*Tringa maculata*) are sometimes abundant in swamps about the 20th of May. Who discovered its nest and determined its eggs in Canada?

The Solitary Sandpiper (*Rhyacophilus solitarius*) is also seen about the end of May, near creeks on the margin of forests. Has any person found its nest in Ontario?

Did any Oologist discover the Field Plover, commonly known as Bartram's Plover (*Actiturus Bartramius*) breeding in Canada?

The Yellow Rail (*Porzana Novaboracensis*). This pretty little game-looking Rail breeds in our northern swamps, as they have been shot on snipe grounds behind Quebec in Autumn. They pass over the latitude of the latter city, probably north of the Laurentian mountains. Can any of our correspondents send us information as to its nest location, its form and material of construction; whether the habits of the species are similar to the other Rails? Any portion of its summer history would be of interest.—C.

MONTREAL BRANCH, ENTOMOLOGICAL SOCIETY OF ONTARIO.

The ninth annual meeting of this society was held on the 16th May, at the residence of the President, H. H. Lyman, Esq. A very favorable report was presented for the past year, and the society congratulated on its

success and the interest taken by the members in this important branch of Natural Science. Eight meetings were held during the year, (there being a vacation in summer), at which six original papers were read, and many valuable observations placed on record with regard to our Montreal insect fauna. The titles of the papers are as follows: "Notes on some species of HYMENOPTERA occurring at Montreal." "On Instinct in insects." "The Pickled Fruit Fly, *Drosophila ampelephila*, Loew." "On the Genera *HEPIALUS* and *STHENOPIS* in Canada." "Notes on the CALLIMORPHAS in the Boston Museums, as compared with Montreal species." "List of LEPIDOPTERA collected in 1881, by Dr. Bell, of the Geological Survey. A valuable donation of books, from the Society in London, Ontario was also thankfully acknowledged.

The following gentlemen were elected to office for the ensuing year: H. H. Lyman, M.A., *President*, W. Couper, *Vice-President*, G. J. Bowles, *Secretary and Treasurer*, F. B. Caulfield, J. G. Jack and E. D. Wintle, *Members of Council*.

The members had the pleasure of examining the celebrated work of Boisduval and Leconte on the DIURNÆ of America, and also the beautifully executed works of Professor Townend Glover, of Washington, U.S. on the HEMIPTERA, and on Cotton worm insects. The latter books are profusely illustrated with etched plates, and the reading matter is lithographed from the Professors manuscript in fac-simile. All of these works are, we believe, unique in Montreal.

The prospects of the coming season's collecting were also discussed, as well as the various entomological problems at present engaging the attention of the society, and the members separated with pleasant anticipations of the summer expeditions in pursuit of their "untaxed and undisputed game," by field and flood, over the mountain slopes, or through the leafy woods, and gaining at one time three important things,—health, recreation, and some insight into the mysteries and beauties of nature.

PETRIFIED NEST AND EGGS.

While examining the collection of Dr. S. Woolverton of this city, I was shown a petrified bird's nest, containing two eggs, which was found in a cave near Woodstock, Ont., several years ago. It seemed to be formed of sticks, which outside were placed longitudinally.

ally, but in the cavity laid horizontally. Many were as much as five-eighths of an inch in diameter, but probably increased by their coating of lime precipitate. What had the appearance of moss was laid around the edges. The eggs, also petrified, lay near the centre of the nest, the larger end of one adjacent to the smaller end of the other. The external dimensions of the nest are 5 x 5 inches, the cavity being $3\frac{1}{2}$ x 3; the eggs both in size and appearance resembling a chaparral cock's. The whole weighed about two pounds, all the interstices between the sticks having been filled with the carbonate, welding them into a homogeneous stony mass. As a whole, it greatly resembled the lava-like formation of stalactites generally. The species is unknown but the doctor thinks it belongs to a Pewee, the eggs being abnormally enlarged by the lime formation, as also the straws, which have the appearance of sticks.—G. S. Smith, London, Ont.

Correspondence.

BIRD NOTES.

To the Editor of THE CANADIAN SPORTSMAN AND NATURALIST.

DEAR SIR,—As previously intimated, the Messina Quail, imported by Col. W. Rhodes, of Benmore House, wintered at his request, in my aviary, were let loose at Spencer Grange this spring. The event took place on the 20th May inst.—Buckwheat their favorite food was strewed in the woods and the birds cast out free. You may also be pleased to learn that Col. Rhodes, who returned home per "*Circassian*" on the 17th inst., brought out to Quebec, another supply of Sicilian Quail, close on one hundred, all of which he turned loose the next day, at Sillery, towards the Gomin Wood, in rear of Benmore House. The experiment was unavoidably made late, on account of the backwardness of spring. In ordinary seasons, it might take place on the 1st May, so as to give the birds a chance to nest early and have their young full fledged, healthy and strong in September following. I hope yet to hear that some of your public spirited Montreal sportsmen and well-to-do citizens will try similar experiments in the wooded and sheltered declivities of Mount Royal, whose southern aspect seems most favorable for this purpose. Let us now mark

results of this spring's operations. As a former resident of Quebec, you must be well acquainted with the dates and particulars of the spring migration of our Canadian birds, especially that of the Robin (*Turdus migratorius*), on his way to the ice-bound regions of Hudson Bay, where Sir. John Richardson, during the leafy months met the Robin in such numbers. The spring and fall migration of birds has ever been shrouded in mystery and the Robins are no exception to the rule. For the last twenty-two years, which I have spent at Spencer Grange, (as you know,) is the smaller half of Spencer Wood proper, the spring migration in the early days of May has been uniform and regular. It was difficult to ignore even in a parliamentary or Pickwickian sense the presence and loud warblings of the two hundred feathered musicians, who on some occasions have, undisturbed, elected domicile here in May, for two weeks on a stretch. Night and morning, these *virtuosos* poured forth floods of wild minstrelsy, in such defiant, loud, merry, lawless tones that one might have been tempted to believe the place belonged to them—possibly as Irish tenants of the land. The programme ran thus—at 6 a.m., a bath in the *Belle Borne* Brook; at 8 a.m., the morning hymn or performance; on the rising of the curtain, a grand rehearsal: the execution, superb, highly artistical—shall I say, æsthetical. Then, a full stop—a break in the song—a rush, an invasion *en masse* of the moist meadow adjoining the lofty pine, ash, and maple trees which girdle the grounds. A few pair of Robins would cross over to lunch at Woodfield, on caterpillars, earth worms, &c. Some jaunty bachelors whisking their tails and wings, accompanied by sprightly or demure, love-sick lady-birds, lighted under the groves of Spencer Wood, to gossip, frisk and flirt on the grassy margin of the historic *ruisseau Saint Denis*, where more than a century ago, the valiant Wolfe climbed to conquer or die: the bulk of the orchestra, possibly, accompanied by the *Impressario*, loved to linger the livelong day, under the leafy domes of Spencer Grange, within reach of their bathing ground—the *Belle Borne* Brook. Such the usual accompaniments of the annual northern migration of the Robin. Nothing of the kind this spring. The only Robins, a few pair probably hatched on the place—brought back by the bump of locality or memory of places. No spring wave of emigrants this season to the north—our way;—another route through

a warmer latitude may have been selected. But I must close; I may in my next have something to say about other dear friends—the Song; White-crowned; White-throated and Chipping Sparrows, as well as of other spring visitors—the Golden-winged Woodpecker; the Hermit Thrush; the Veery; the Red-start, the Red-eyed Flycatcher &c.

J. M. LEMOINE.

Spencer Grange, 20 May, 1882.

DEAR SIR,—In the last number of your valuable paper, I notice a letter from Mr. R. Rowe. As I take a great interest in Ornithology, and know how very important it is, that all information on this subject should be thoroughly reliable, I take the liberty of correcting an error in Mr. Rowe's notes, as I feel it a duty I owe to others interested who may be misled by it. He says a fine female Trumpeter Swan (*Cygnus buccinator*, Rich) was shot near this city; the bird referred to by Mr. Rowe was shot by Mr. Barnhill, and mounted by Mr. Carnall, and is now on exhibition for a short time, in the rooms of the Natural History Society of this city, where I have had the pleasure of examining it, and pronounce it to be the American or Whistling Swan (*C. Americanus*, Sharpless); the yellow spot showing distinctly in front of eye; tail composed of twenty feathers; nostril far forward. The interior extremity more forward than half the commissure; wing measuring twenty-one inches; bill four and a quarter. These facts I think are sufficient to convince any one who has studied the differences of the two species, of the identity of this bird, and I think Mr. Rowe will also be convinced if he will examine it again more closely. Mr. Barnhill prizes this bird very highly as it is the only instance of which I can learn of one having been captured in this Province. Can any of your readers inform me of any having been taken in New Brunswick or Nova Scotia? Would Mr. Rowe kindly inform us, in what part of the Province the flights of Cross-bills to which he refers, been seen? If in the vicinity of St. John? and during what month? I cannot learn of anyone else who has seen them near here, as I myself and several of my friends have made special excursions in search of these birds and their nests, and have not been successful in seeing more than an occasional straggler. During the winter of 1879 and 1880 the White-winged Cross-bill (*Loxia*

leucoptera) was particularly abundant; during a two hours tramp, I secured sixteen beautiful specimens and could have secured as many more had I been desirous of so doing. The common Redpoll (*Aegiothus linaria*) and Pine Finch (*Carisomitris Pinus*) were also very abundant during the same winter, when the woods were made quite lively by the combined songs of these birds; by the middle of April they had all disappeared, and have not been as abundant since, the Cross-bills only appearing in straggling pairs, while an occasional flock of Redpolls have put in an appearance round the farm yards. I have never observed the Red Cross-bill (*Loxia curvirostra Americana*) during the winter months; I shot a pair in July 1879, and have frequently seen them late in the fall in large flocks.

HAROLD GILBERT.

St. John, N.B., May 17, 1882.

PICKERING'S TREE FROG.

(*Hyla Pickeringii*)

This little Tree Frog is usually the first of its class to hail the coming of Spring. It sends out a peculiar crepitant sound, strongly resembling a cricket, hence it is sometimes called "Cricket Frog." It is a true Tree Frog; the extremities of its toes and fingers have round sponge-like protuberances supplied with viscid matter to help it to adhere to anything perpendicular. It is at ease on a sheet of glass, and when confined in a glass vase containing water, it can climb up and remain on the surface of the glass for a long time, perfectly motionless, as if asleep. This cannot be done by a common frog, as it is not provided with glutinous exudation. *Hyla Pickeringii* belongs to the order ANURA, or tailless batrachians. The *Hylidae* are arboreal in summer; they are small frogs having remarkable power of emitting loud and hoarse notes. The ear is fully developed and the family is represented in many portions of this earth. It is toothless; the toes are webbed; the skin more or less warty; under portions of body crowded with small papillæ exuding a viscous fluid. Each toe and finger has a dilated spongy disk enabling it to cling to anything that it leaps on, and it relies on the papillæ to secure its position on a leaf or branch of a tree. The toes are certainly used, but not in the manner of other frogs. Its back is reddish-brown with stripes resembling St. Andrews cross. A triangular mark on the

head between the eyes. Irides golden hazel. External surface of legs and arms spotted or banded or irregularly striped. Abdomen yellowish white. A dark strip from the nostrils passes through the eye, over shoulders and half way down the side. Throat more or less brown, generally wrinkled under the tongue and fauces. Tongue bifid behind. Beneath the tongue there is a small opening at each side, and these unite at the entrance into the sublingual sack. When making its crepitant croak, this sack is distended in the shape of a small orange, and rapidly emptied, forcing the wind over the edges against the palate and through the nostrils. By this means the peculiar noise is produced. This species breeds early, depositing its spawn in water, very soon after the ice disappears. I have heard its notes at one end of a small pool when the other end was glazed over with ice, and when the temperature of the water was 33° Fahrenheit. It is a difficult matter to discover this little frog when it sounds its note and if man approaches, no matter how careful, the least motion causes it to be still. It protrudes half of its head over the surface of the water, and in calm sunshiny days, a gentle thrill of wavelets may be noticed around its tiny head. But the moment that it sees anything in motion approaching or passing, its sack suddenly collapses, the tiny head sinks, and Mr. Frog goes noiselessly to the bottom, without leaving the slightest ruffle on the surface of the water. It drops down among the mud and decayed herbage without any effort to bury its body. Its imitative powers are so great that the spot in which it hides itself cannot be seen; the colour of its body being almost like the mud, &c., and spots or stripings have a tendency to make it more obscure. Regarding its note (which is powerful in proportion to its size) it may be heard on a calm spring evening, at a distance of a mile. Its weight is about thirty grains or half a drachm, therefore an ordinary sized man of 155 lbs. weight is 32,720 times larger than this little vocalist. Now suppose a man gifted with the same proportional vocal power, stood anywhere on the equator, raising his voice aloud, the sound would go round the whole world, and lap over its point of starting 8,720 miles. This illustrates an amazing power of producing sound, and it is well that our atmosphere resists and modifies sound in accordance with natural laws, otherwise the surface of the world would become a continual

din. There is another fact that I have often observed in reference to the notes of this frog, that is, its power of reverberation, seeming as if produced by ventriloquism. I have frequently stood motionless near the edge of a pool or swamp, hidden perhaps by a root or an upturned tree, listening to a score of these vocalists in full chorus, as if each endeavoured to drown the sound of its neighbour, and although I looked with great care, I could not see one individual. I have often searched with my eye for some particular *Hyla*, as far as my vision permitted, and the sound reverberated in my ears, as if the animal was ten or fifteen yards away, while in fact it was actually at my feet. One warm day at the end of April, 1880, I was collecting on the banks of a large pool in the bush. Suddenly I heard a single *Hyla Pickeringii* several yards away, and as I was anxious for some exchanges, I went cautiously to the spot. As I arrived, the same tone of note resounded from the very spot I had left. Returning again, it sounded from an opposite quarter, and, thither I followed the sound as if in mockery, in the very spot I had just left. I proceeded with more caution than before, and after a short time, the sound proceeded from a limb some distance above me. I happened to cast my eye on a fly that rested on a twig about four feet from me, thus by mere accident I discovered a *Hyla* perched on a dead branch. I stood motionless, intently watching it and presently I saw its little pouch distend, and the notes follows, but I could not tell from what quarter, had not my eye detected the musician; my ears led me astray, indeed, they failed to assist me to the true locality from which the sound proceeded. This power of reverberation or ventriloquism, call it what we may, is possessed by no other species to the same extent. It is comparatively easy to trace any other frog by its notes. I saw the spawn this season on the 4th of April, but this year has been exceptionally early. This frog seeks its food on herbage, but seldom climbs to a great distance from the earth. On opening the stomachs of several, I have found Aphides, small beetles and other insects, and on one occasion, a small earth-worm. This frog is seldom seen in daytime; it is more of a night feeder. In the nesting season, the note differs little from that of any other period, and the name given to this sound, is most admirably expressed in French by *chant amour*. The following measurements of a

dozen adult specimens taken carefully and added together, and divided by twelve, gives a very fair average of the normal size:—Length of apex of nose to end of longest toe, $2\frac{3}{4}$ inches; breadth of body, 9-16 in.; length of body from nose to tail, 1 3-16 in.; length of skull, $\frac{1}{2}$ in.; breadth of skull, 6-16 in.; length of leg from hip joint to end of longest toe, 1 10-16 in.; length of thigh, 7-16 in.; length of leg $\frac{1}{2}$ in.; length of foot 12-16 in.; length of arm to end of longest finger, 10-16 in.; length of arm, $2\frac{1}{2}$ -16 in.; length of fore arm, $3\frac{1}{2}$ -16 in.; length of hand, 4-16 in.; length of nostril to corner of mouth, 4-16 in.; diameter of ear, 1-16 in.; length of second finger, 3-16 in.; length of third finger, 12-16 in.; breadth of lower jaw, $6\frac{1}{2}$ -16 in. In spring it is generally found in pools, and in the autumn it buries itself in moist or muddy localities where it hibernates, and the place may be covered with several inches or feet of water. It is frequently found under leaves in moist wooded spots, and when the leaves are removed from its back, it remains perfectly motionless, and it then represents the shape and colour of a dead birch leaf. Although numerous they are not easily captured. They are comparatively still in day-time, but as night approaches, the sounds from the numerous throats are truly deafening. In this locality it is popularly named "The Canada Band." With them are associated the Wood Frog and the *Acris gryllus* var. *crepitans*; also a Cricket Frog, which has more of a singing note, and in fact very difficult at times to distinguish from it; even on close inspection. The *ova* is deposited in April, and I have obtained the young in perfect form in June. This is a rapid completion of its early stages, but it is slow when compared with some species found in Arizona and New Mexico, which deposit their *ova* in pools formed by spring rains, and before these pools have had time to dry, the young come forth fully formed. *Hyla Pickeringii* has the power of mimicking colour, and it is not uncommon when first taken to be of a light yellow or slightly brownish yellow colour, and when placed in a vase with dark moss, it will, in a day or two become a deep coppery brown. I have observed this frequently and am unable to account for it. If volition has to do with it, the animal would change suddenly. But it requires several days to produce this in confinement, consequently I presume it must be as slow in freedom. In summer I have seen the young of a greenish tinge, among low

herbage, and when these are kept a few days, they become of a coppery tinge or yellowish brown. It appears to me, then, that the subcutaneous pigment may be deposited in greater quantity when surrounded by dark colours and that light colours have the power of causing sympathy or exciting influence, either of absorption or diminishing excess of shade. The subject is too intricate to discuss at present. I have taken the measurements with care and am able to state that they approach as nearly to the exact thing as possible.

J. H. GARNIER.

Lucknow, Ont., June, 1882.

GAME LAWS FOR THE PROVINCE OF QUEBEC.

MOOSE, DEER, ELK, CARIBOU, &c.

1. The hunting or taking of moose, before the first of September in the year one thousand eight hundred and eighty-three, is forbidden, and, after the expiration of that period, between the first day of February and the first day of September in every subsequent year: the hunting, taking or killing of elk, caribou, deer or their fawn, is also prohibited between the first day of February and the first day of September in each year.

Beaver, Mink, Otter, Marten, Pekan, Wild-cat, Hare, Musk-rat.

2. It is forbidden to hunt or trap:

1. Any beaver, mink, otter, marten, pekan or wild-cat between the fifteenth day of March and the first day of November, in each year;

2. Any hare, between the first day of March and the first day of November, in each year;

3. Any musk-rat, between the first day of June in each year and the first of April of the year following, in the districts of Quebec, Saguenay, Chicoutimi, Montmagny, Kamouraska, Rimouski, Gaspé, and between the first day of May in each year and the first day of April following in the remainder of the province.

Partridge, Grouse, Ptarmigan, Woodcock, Sand-lark, Wild duck, Widgeon, and Teal, &c. &c.

3. It is also forbidden to hunt or take:

a. Any partridge between the first day of January and the fifteenth of September, in each year;

b. Any grouse, ptarmigan, woodcock, snipe, or sand-lark, between the first day of February and the first day of September, in each year;

c. Any wild swan, wild goose, Canada goose, or wild duck of any kind, widgeon or teal, between the fifteenth day of April and the first day of September, in each year;

d. Any of the birds mentioned in paragraphs b and c of this section, at any time between one hour after sunset and one hour before sunrise;

2. To disturb, injure or gather or take, at any time, the eggs of any species of wild fowl mentioned in this section, and all vessels or boats employed in disturbing, gathering or taking the eggs of any species of the aforesaid wild fowl, may, as well as the eggs be confiscated and sold.

Nevertheless, in that portion of the province to the east and north of the counties of Montmorency and Montmagny, the inhabitants may, at any time, and only for the purpose of procuring food, shoot or take the birds mentioned in paragraph c of this section.

4. It is forbidden to take, at any time, by means of ropes, snares, springs, cages, nets, pits or traps of any kind, any of the animals or birds mentioned in sections 1 and 3, except partridges; and to place, construct, erect or set, either wholly or in part, any engine for such purpose, and any person finding any engine so placed, constructed, erected or set, may take possession of or destroy the same.

INSECTIVOROUS OR OTHER BIRDS BENEFICIAL TO AGRICULTURE &c.

5. It is forbidden, between the first day of March and the first day of September, in any year, to shoot, kill or take, with the intention of killing, by means of nets, traps, springs, snares, cages or otherwise, any barn swallow, bank swallow, martin or chimney swallow, king-bird, warbler, flycatcher, woodpecker, whippoorwill, song-sparrow, titmouse, goldfinch, grive, cow-bunting, bobolink, (*dolichornix oryzivorus*), sparrow, jay, grackle, grosbeak, and all other species of birds, with respect to which no provision has been made in any of the preceding sections, or to take their nests or eggs, except eagles, falcons, hawks and other birds of the eagle kind, wild pigeons, fishers, crows and ravens, waxwings (*recollets*), and the great northern shrike (*Collyrio borealis*).

This section does not, however, apply to the birds commonly known as poultry.

6. It is forbidden to take or kill migratory quail up to the thirty first of December, one thousand eight hundred and eighty-four.

GENERAL PROVISIONS.

7. It is forbidden, at all times, to use or employ strychnine or other deleterious poison, either mineral or vegetable, or any spring-gun, to hunt, take or destroy any animal what ever.

8. Every game-keeper, under the control of the Commissioner of Crown Lands, shall forthwith seize all animals or birds mentioned in the preceding sections,—except section 5,—or any portion of such animals or birds found by him in the possession or custody of any person during any forbidden period and which appear to him to have been taken or killed during such period or by any of the illegal means set forth in sections 4 and 7 of this act; and bring them before any justice of the peace who shall declare them confiscated, either in whole or in part. All animals or birds or portions of animals or birds so confiscated belong to the game-keeper.

9. It is forbidden to have in one's possession, custody or care, any animal or bird already mentioned,—except those with respect to which provision is otherwise made in section 5 of this act,—or any part of such animal or bird, with the exception of the skin, during the period in which the act of killing the same is prohibited, by this act, or which appears to have been killed or taken by any of the means forbidden by this act; but every such animal or bird, or any portion or portions thereof, may be bought or sold, when lawfully taken, during five days to be computed from the expiration of the various periods respectively fixed by this act for the taking or killing thereof.

10. Every game-keeper, under the control of the Commissioner of Crown Lands, may cause to be opened or may himself open, in case of refusal, any bag, parcel, chest, box, trunk or other receptacle, (outside the limits mentioned in the following section,) in which he has reason to believe that game, killed or taken during the close season, or peltries out of season, are hidden.

11. Every gamekeeper appointed by the Commissioner of Crown Lands, if he has reason to suspect, and if he suspects that game, killed or taken during the close season, or peltries out of season, are contained or kept in any private house, store, shed or other buildings, shall make a deposition before a justice of the peace, and demand a search warrant to search such store, private house, shed or other

building and thereupon such justice of the peace is bound to issue a warrant.

PENALTIES, PROCEEDINGS, &c.

12. Every infringement of any of the provisions of this act is punishable by fine, to be recovered summarily on information or only on a writ of summons issued by a justice of the peace.

The fines are as follows: For every infringement of

Section 1.....	\$5 to \$20
Sections 2 and 3.....	5 to 15
Section 4.....	2 to 10
Sections 5 and 6.....	2 to 6
Section 7.....	25 to 50
Section 9.....	5 to 20
Section 17 (double the fee for the game license)..	
Section 19.....	5 to 10

Such justice of the peace, shall, if he finds the proof sufficient, impose the fine with costs, which fine wholly belongs to the prosecutor, if he be a game-keeper, and one half only if he does not act in an official capacity; in the latter case the other half is paid over to the game-keeper, appointed for the division by the Commissioner of Crown Lands, to be by him forwarded to the Crown Lands' Department.

In default of immediate payment, the offender is imprisoned in the common gaol of the district within the limits of which the offence was committed, for any period of time not exceeding three months, and in cases of infringement of section seven, for a period not exceeding six months.

Every justice of the peace has power to convict on view.

Prosecutions are at the risk and costs of the complainant.

13. Suits brought in virtue of this act need not be begun by deposition, or information or oath of the plaintiff or complainant, provided that the purport of the complaint or demand is sufficiently set forth in the writ or in a declaration annexed thereto.

The evidence of the complainant alone or of any one witness is sufficient to justify a conviction.

14. No proceeding under this act shall be quashed, annulled or set aside by *certiorari*; but an appeal may be brought before the Circuit Court of the district in which the offence took place, in the same manner as appeals under the municipal code.

15. No prosecution shall be brought after

six calendar months from the day of the committing of the offence charged.

APPOINTMENTS, GAME LICENSES, &c.

16. The Commissioner of Crown Lands has the power of appointing officers to see to the observance of this act and of any other act which may hereafter be passed relating to game in this province.

17. In future, no person who has no domicile in the province of Quebec can, at any time, hunt within the meaning of this act, without being authorized thereto by a license to that effect.

18. Such permit may, upon payment of a fee of twenty dollars, be granted by the Commissioner of Crown Lands to any person, not domiciled in the province, who applies to him therefor, and shall be valid for the whole of one season's shooting. It must be countersigned by the game superintendent.

19. The Commissioner of Crown Lands may grant written permits to any person or persons who may be desirous of obtaining birds, eggs or fur-bearing animals for *bona fide* scientific purposes, to procure them for that purpose during the close season, and such permits shall be countersigned by the game superintendent; and the person, who shall have obtained such permit, shall not be liable to any penalty under this act, provided he sends in, within two months from the date at which he acted under such permit, a statement showing the species and number of the game or fur-bearing animals he so procured for scientific purposes.

20. Every wood-ranger, appointed by the Commissioner of Crown Lands, is while in office as such, *ex-officio* gamekeeper for the division under his superintendence and he is not entitled to any additional salary for such services.

21. The Commissioner of Crown Lands may also appoint as game-keepers, any other persons besides the wood-rangers and assign to them such territory or division as he may think proper under the circumstances.

22. The lieutenant-governor in council may in his discretion prohibit the hunting or killing of any game or fur-bearing animal, for a period not exceeding five years.

23. The present act shall come into force on the day of its sanction.

NOTE.—In our next issue, we will make some further comments on the above.

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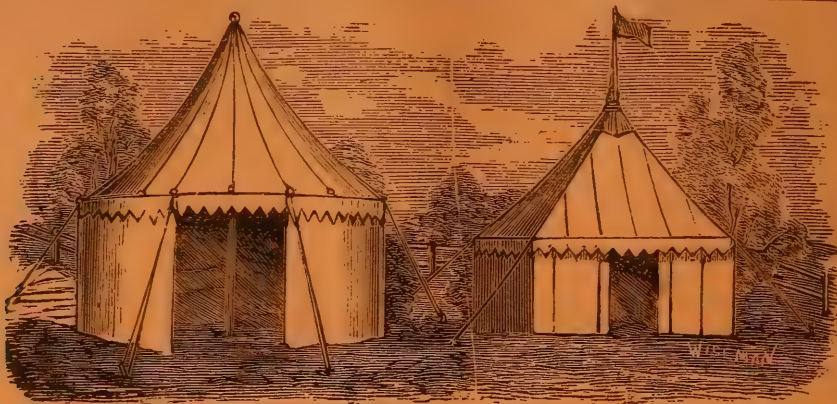
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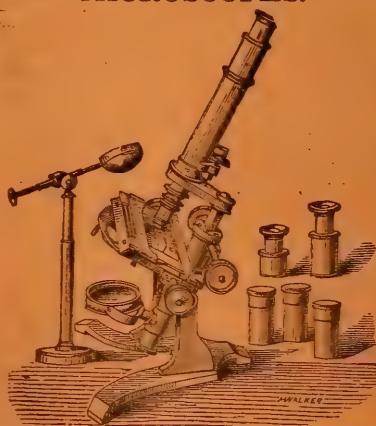
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A
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VOL. II.
No. 7.
1882.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 7.

MONTREAL, JULY, 1882.

VOL. II.

WILLIAM COUPER, Editor.

CANADIAN FOOD FISHES—NEGLECTED SPECIES.

Large quantities of preserved fish commonly called Sardines are sent to this Dominion from Europe. The Canadian consumption of this article must be enormous, while the purchasers are ignorant of what they are buying, and we may as well tell them that in many cases they are not eating the genuine Sardine, but the posterior portion of herring (*Clupea*.) Years back there was a possibility of obtaining the true Sardine, but to-day few fish of the kind are packed for our market. We have to take an inferior article—a fish densely covered with large scales and with only a remote flavour of the Sardine. We know of a better fish in the Gulf of St. Lawrence, occurring abundantly during the months of May, June and July, as far up the river as Baie Mille Vaches and Bic. The *habitants* take them in large quantities, which they generally salt in tinnets for the Quebec market, but unfortunately this Canadian Sardine is extremely delicate and the primitive mode of preserving make the fish too salt; they are therefore not generally relished. If, however, the Sardine of the St. Lawrence, could be put up in oil in fair-sized tins, there is reason to think it would be equal, possibly superior to the supposed Italian fish sent to us by the name of *Sardines a la huile*. We have an advantage also of claiming this fish as local to our marine fauna—that is to say, they occur in great schools in the Lower St. Lawrence, while they are scarcely ever seen in the salt waters bordering the United States. This is an advantage. Doubtless the presence of this delicate fish in the Gulf, is to a great extent the cause for the appearance of numbers of whales and seals in these waters during summer. Here, then, is plenty of material to open a new industry, which in our opinion would be remunerative,

if a few energetic men take it in hand. We are astonished that this pretty, delicate fish has been so long neglected, and the subject is now brought before the Canadian public for the first time, to show that there are disregarded though available industries in the Dominion.

There is another little fish, also extremely prolific in the same waters—i.e., the Caplin. When this fish is properly cured—and of late, the Gulf fishermen have paid some attention in curing them—it forms a healthy, fattening food. The demand at present is principally from English restaurant keepers, especially in the City of London. The present mode of curing is simple, that of allowing the fish to remain in salt for a short time and then laid out in the sun to dry. It may be said that Caplin preserved in this way are sun cooked. We can vouch for this, as they formed a delicious morsel with a biscuit and coffee at breakfast daily for three weeks on our second trip to Labrador. One paillat purchased for 25 cents, served to give a relish to the morning meal during the latter time. In these times, when all kinds of human food is dear, it is necessary that some attention should be directed to neglected material which could be converted into good, strengthening, easily digested food for mankind. Now that we have made important remarks regarding the above species of marine food fishes, we wish to bring before our readers two species of fresh-water fishes, which, by some persons, are considered excellent human food, when properly cooked. The common Cat-fish and the large Channel Cat-fish are found throughout the Provinces of Ontario and Quebec; the former common throughout Ontario, and the latter uncommon in Quebec. It seems that delicate and refined people have a prejudice against eating these fishes, but we can dispel such notions from the fact that some scientists have classed them near the Genus *Salmonide*. The Cat-fish being forms occurring on this continent, approaching the latter by having the lateral and posterior portions of their bodies resembling Salmon. They have the adipose fin; the tail portion certainly resembles some species of *Salmonide*. With regard to our own experience, we have cooked

Cat-fish in various ways, but the perfect mode of obtaining the flavour of the common Cat-fish is to pot them; they constitute the best fresh-water fish on this continent for potting, and their flavour is not far removed from Salmon. We rely therefore on the gist of our remarks being looked into; that we may see the Sardine of the Lower St. Lawrence put up in genuine olive oil; the pretty Caplin sold by our grocers, as sun-cooked fish, and the Cat-fishes of our fresh waters potted in such style that the strong prejudice formerly held against them may be forever removed.—C.

THE QUEBEC GAME LAWS.

It is strange, after the many changes or alterations made in the Game Laws since they were first framed for this portion of the Dominion, that they are now imperfect. The Commissioner of Crown Lands has adopted an ornithological nomenclature peculiarly his own, as we cannot determine his "Sand-lark," and question if any one else can. Suffice to say that no bird of the name is known on this Continent. Section 5 of the Act is a perfect jumble, for we find the Grakles, Grosteaks and Cow-bunting classed as insectivorous, while the (wax-wings) Cedar-bird is ordered to be destroyed. The Sparrow, which we suppose to mean the introduced European species is classed as an insect-eating bird, merely by chance because it has changed much of its old country habits in this climate. Only the other day, a motion was made by one of our Montreal City fathers devising means to destroy the House Sparrows, which are said to be a nuisance. But the mover and seconder of the idea forgot that an Act was passed by the Quebec Legislature protecting the Sparrow, and as soon as they gave the order to the Road Committee and they commenced to destroy them, Inspector Gailley could pounce upon these gentlemen, when according to law, they would be fined or go to jail. In connection with Section 5, a paragraph occurs which appears to us to have been placed there as a joke, as we cannot see what "poultry" or domestic fowl have to do with

the wild birds of the forest; however he who shoots a barn-yard fowl to bag it instead of a Whip-poor-will is a knave when he pleads ignorance of difference between the two birds. To show the confusion in this Game Law, it says that "it is forbidden to hunt or take (a) any Partridge between the first day of January and the *fifteenth of September* in each year;" and (b) any Grouse or Ptarmigan between the first of February and the first of September in each year." The poorest tyro sportsman in Canada possesses some knowledge of the birds classed as game, and when the Ruffed Grouse is called a Partridge, he knows that the name is vulgarly used. Suffice to say that we have no Partridge in Canada, (unless they have been lately introduced from Europe or some other country without our knowledge). The birds of this class called game—i.e., the Ruffed Grouse, Spruce Grouse and Ptarmigan are true American representatives of forms known to ornithologists as Grouse. Now, as stated above, a man may shoot Ruffed Grouse on the 16th of September and in accordance with the correct nomenclature of the bird, backed by scientific evidence, he can defy any Provincial Magistrate to fine him for doing so. We are displeased with this amended Game Law, and the hurried manner in which it was passed to the Statute-book. The matter should have been placed in the hands of a competent naturalist—one who professes to know something of the animals referred to;—A course of this kind would avoid criticism and the Statute would not then be paradoxical to legal men or magistrates. We wish some of our sportsmen would give us their opinions on these Game Laws; our object being to arrive at their correct framing.—C.

THE SAW-WHET OWL.

The melanic form of this little owl is rare. A beautiful specimen was sent to us on the 21st inst. from Ontario. In days of yore, the variety was not properly known, its dark colouring would at that time lead an ornithologist to describe it as a new species. A want of knowledge of this bird led to the description of the White-fronted or Kirtland's owl, but now it is known that we have only two distinct species of small northern owls—i.e., Richardson's and the Saw-whet, both of which appear in distinct dresses during summer and winter.—C.

Correspondence.

NEST HUNTING.

SIR,—Recent communications which I received from Canadian and American Ornithologists leads me to think that former articles in your Journal have been read with interest; I think it may also be interesting to our Ornithological friends to make a few remarks regarding birds observed, and nests discovered during the present season. On the 24th of May, I was fortunate to discover the nest, and secure therefrom, a set of the eggs of the Pigeon Hawk, (*Falco columbarius*). This bird is rather rare in these parts of Canada where I have pursued my Ornithological researches; in fact, with the exception of the Red-tail, commonly called the Kite, or Chicken Hawk, none of this tribe are numerous in this region. Last summer, I noticed one of these hawks capture a pigeon in my garden; it flew with its victim towards a cedar swamp north of this town, where in April last I noticed several old nests which I supposed belonged to this species, or some of the hawk family. This led me to believe that the locality was a favourite nesting place of these birds, and I determined to revisit it later in the season. Accordingly on the above date, in company with my oldest son, I was again among the cedars. In the midst of a thick growth of evergreens, chiefly balsam and cedar, I discovered in a cedar tree, about forty feet from the ground, a new-made nest, from which upon throwing up a stick, I had the pleasure to start a hawk; and upon her return with her mate, I saw it was *Falco columbarius*, and these by their notes intimated that they regarded my presence as dangerous to their long undisturbed safety. To reach the nest was a work of considerable difficulty; I was not an expert climber, and a fall might be fatal. Having a shingling axe and some nails with me, I first made a rude ladder, about fourteen feet long; this brought me to the lower branches, whence I had to cut a number of small limbs as I progressed upward. In a short time, however, I found myself in reach of the nest, which was placed on several branches, close to the trunk of the tree, and formed of small dry sticks and bramble. In the slight hollow I found four eggs, which I soon transferred to my collect-

ing-box, and with them descended in safety to the ground, rejoicing over my good luck and eggs of any of our Birds of Prey that I had yet secured—and which, though incubation had progressed several days, I found no difficulty in preparing, and placing at the head of my collection. The general colour of these eggs are white, variously marked by different shades of brown. No two of them are similarly marked, nor of a uniform size; two of them are almost round, being 3.5-4 x 3.4 inches in circumference. One is 3.4 x 4, the other which is more oblong, is 4 x 3.4. One of the round eggs is dark brown on one end; the more oblong one has an irregular band of a similar hue towards the centre; another is banded and blotched over the middle, and another which has less colouring than the rest, has its darkest shade on one side. Vennor, in "Our Birds of Prey," pages 11 and 16, describes this bird, but it seems that he was not acquainted with its nidification. On the 5th of April, I observed three pair of a species of hawk, new to me; they were moving westward, being at an elevation of several hundred feet, and seemed to be going through a regular waltzing gyration. The colour appeared to be greyish white; the body neat and slender and about the length of the Pigeon Hawk; the wings long and curving sometimes flapped, and again spread out as they circled round after the manner of the Red-tail. Again, on the 25th of the same month, about three miles east of this town, I observed at about an equal elevation, six birds similar to those seen on the 5th, going through similar evolutions, but moving in an opposite direction. Their notes which I heard on this occasion, at first sounded like those of the wild goose, but ended in a call similar in tone, but less loud than that of the Red-tailed Hawk. Perhaps these were the Broad-winged Buzzard. Robins are numerous here, this season, and many of their nests have been observed. The Blue Bird is now becoming scarce, I have not seen its eggs this season yet. It first made its appearance here on the second of March. The Crow-black birds are very numerous, nesting in the balsam shade-trees in the town, and in the willows and small cedars in the beaver meadows as well as the deserted holes of Hholders, and hollows of trees. I have taken over a dozen sets of their eggs this month. The Northern Shrike (?) is becoming more common. On May 3rd, I collected from a nest in a

thorn bush by the road-side, six eggs, and on the 6th, from another nest in a small balsam, a set of seven eggs; another set of six, was collected on the 20th near the former place. I will not trespass on your space, further at present but will continue this subject another month.

WM. L. KELLS.

Listowel, May 29th, 1882.

TIT LARK.

(*Anthus ludovicianus*.)

I recollect having found the nests of these birds on a Common near Galt, Ont. They were placed in a hollow in the ground just large enough to contain the nest. The place selected was always on a hillock or rise in the ground. I often wondered they were not destroyed by the cows, that fed over the common, stepping on them, as they were so exposed. I have seen them with eggs and with the brood. The young are little, grey, fuzzy-headed fellows. The eggs were not unlike the cow-buntings. I think it was in May I found them. Of this or the appearance of the eggs I am not certain, as it is several years since I saw them.

CHAS. J. G. FRASER.

Punta Rassa, Florida,

FISHING AT ST. ANN'S.

The fishing at St. Ann's this season as elsewhere, especially in the Ottawa, is later than usual, owing to the high water and continued cold, bleak north and east winds. Occasionally however, there was a warm balmy day, one of these days that a fisherman "sees game" and if so situated as to be able to take his rod, boat and a few white minnows at the "biting hours" and quietly slipping his anchor in the lee of a point, or in the eddy between two currents, he will not wait long before there is the gentle nibble, then the whiz of the reel, and a good fish is hooked. On such a day last month, a gentleman of Montreal, residing at St. Ann's for the summer succeeded in taking three black bass, weighing respectively $3\frac{1}{2}$, $4\frac{1}{4}$ and $5\frac{1}{4}$ lbs. in an eddy, and on a similar occasion, while trolling with the rod, struck a maskalonge weighing 35 lbs., and again another weighing 15 lbs. The

bait used was a white phantom minnow. To take a maskalonge on the rod, is the highest ambition of most of our local fishermen, but many are lost in the capture, the cause being chiefly defect in tackle or bad management on the part of the boatman. We are informed that $5\frac{1}{4}$ lb. black bass are scarcer at St. Ann's than large sized maskalonge, and as much if not more careful play is necessary to kill the former than the latter. For a good day's fishing, we know of no better place than St. Ann's in the immediate vicinity of which there is excellent fishing, and it is midway between Lakes St. Louis and Two Mountains. Mine host Routhier of the Clarendon, the fishermen's quarters will furnish boats and boatmen if notified in season.

SPELL MASKINONGE.

Montreal, June 27.

BALD EAGLE.

(*Haliaeetus leucocephalus*.)

I made enquiry of Messrs. Howard & Kennedy, who have been collecting ornithological specimens on this coast, for six years or more, and they say they have never seen a Gray Eagle paired with a Bald. During this time on the coast, they have probably seen fifty nests, and both Eagles were similar in their markings. I found a nest a few weeks ago; it was in the top of a tall black mangrove. I visited it several times and always found an Eagle with white head and tail on the nest. I removed the eggs and placed them in an ant-hill to be cleaned; though they were protected by a box and boards, a Raccoon dug under everything and destroyed them.

CHAS. J. G. FRASER.

Punta Rassa Florida,

24th May, 1882.

NOTE.—The *Anthus* referred to by our correspondent, is doubtless the Tit-lark. He says, "it has a very sweet note and sings as it rises in its flight. It mounts to a height of perhaps fifty feet, then suddenly closing its wings drops towards the ground as if it was shot. The nests of this Lark were found near Galt, about fifteen years ago."

We think there is no duty on objects of Natural History, brought to Canada from the United States. The specimens being for your private study.—C.

THE BIRDS OF PREY OF NOVA SCOTIA.

BY J. BERNARD GILPIN, A.B., M.D., M.R.C.S.

These markings do not accord with the bright chestnut red with no bars, of ours, excepting the broad subterminal one. At the same time, Mr. Downs kept in confinement for several years a pair of red-tails which always kept the brownish bars on brownish red-tails, resembling Richardson's. Thus we have this buzzard in two forms. The warm southern form of Wilson and the paler arctic one of Richardson. The specimens in the Halifax Museum and private collections are all young birds, but agree exactly to Richardson's description in bill, length of primaries and legs and feet. I kept one of the southern forms in confinement for several years. The second year he lost the brown tail of the immature bird and developed a bright chestnut one. I fed him upon livers and raw meat, which he received on his bill, but immediately transferred to his feet, tearing it, from which he fed. On giving him a dead bird he instantly became excited, spreading out his wings and tail and bending over it, with erect crest and head plumage, as it was fixed to his perch by his claws. He usually tore the sides open, thrusting in his hooked bill and drawing out the intestines. His blood stained bill and feathers, with his continuous, guttural, angry cries, and piercing eye underneath its bony brow, showed for the time he was no poor captive tied with a string. The fish hawk (*P. haliaetus*) stands out from the family so broadly that he almost deserves a family alone. Eagles are admitted carrion eaters, and there are ugly stories told about the noblest falcon, of preying on vermin and dead animals. He, of all, kills his prey. Should he drop a fish from his claws, his instincts are never to pick it up. His limbs are muscular to the extreme, scarcely covered by the shortest feathers, and his legs and claws immense for his size; the joints are so loose in their articulation as to have a side motion, and the toes so adjusted that they may work in pairs, like the parrots, two before and two behind; the proper hind toe small, in this particular approaching the owl. The very peculiar scales they are covered with, and the roughness of the sole, still further recedes it from the typical foot of the FALCONIDÆ. They breed in our forest some miles from the sea, but do not winter with us. He may be seen regularly hunting our estuaries and forest lakes. Now

gracefully soaring, and now falling prone as a stone into the water, and then emerging with a fish in his claws, heavily laden and seeking the forest. I never could observe if he went beneath the water, as everything was covered by the splash of water caused by his fall. It is asserted that he does, by men of science and by the practical observer. It must be a very powerful bird to rise loaded from beneath the wave. The rising sun caught me amongst the hills of St. Clements, one morning after a long night ride. The air was filled by dismal screeches, and I nearly broke my back twisting in my saddle till I saw right over my head a fish hawk heavily laden with a fish in his claws and a bald-headed eagle continually soaring above and pouncing down upon his back. In a moment the fish came diagonally falling, the level beams of the early sun glinting it with silver. The eagle dropt like a stone beneath it, catching it on its upturned claws, and flapped away, whilst the poor plundered hawk was heard screaming long after out of sight. The eagles are the last upon our list. The golden eagle (*A. chrysaetus*), the eagle of the ancients, the bird of Jove, remains the whole year, and nests with us. They are more rare than the bald-heads, a pair dominating over a very wide country. I have seen four, three of them alive, taken in traps, the fourth killed by a woman in Pietou County. One in captivity was a very bold bird, attacking everybody that approached him with his claws. This attack was so fierce that a calf-skin boot would have soon been torn from your foot. The bold grandeur of its massive head, supported by a neck arched like a horse and adorned by shining and golden hackles, imposed itself upon you as the type of force and pride; and yet he was trapped. He was seeking dead meat, which he devours as well as carrion. In beauty and severity of expression he far surpasses the bald-head (*F. leucocephalus*), the only other eagle we have. Though he will eat carrion, and gorge himself over the carcase of a dead horse: though he will enter your gardens, and strike a pea fowl or Brahma pullet: yet he adds dead and stranded fish to his larder. Hence his abundance, and his fatness. He remains all year with us, especially about the shores of the Bay of Fundy, building his nest sometimes in trees, at other times on scraggy rocks. As usual, the perfect adults with milk-white tail and head are few in comparison with the brown and spotted white young.

and what is singular those young are larger in their dimensions than the adults. I have known them six inches longer than old male adults. An immature bird shot near Halifax, in January, 1855, measured nearly eighteen feet wing spread, with tail of sixteen inches. He was shot rising from the carcass of a dead horse upon which he had gorged himself. These dimensions exceed the dimensions of the supposed Washington eagle. In studying many specimens, both adults and young, as regards scutellation of tarsus, I found them to vary so much, not only among individuals but in the individual itself, in number, as to be of no use as a typical mark. Audubon makes it a differential mark in the Washington eagle. An eagle about two weeks old, now in Halifax Museum, has twelve on tarsus and twenty on middle toe. The legs of an adult, shot at Digby, 1880, and mounted as candlesticks, has none upon tarsus. One must conclude that they are shed and renewed. In all my examinations of grey or splotted white and brown specimens, I have never seen any but what were the young of the bald. In the list of rapacious birds I have presented to the Institute as inhabiting Nova Scotia, identified by myself or friends, we find that with the exception of the Screech owl (*S. asio*), we have all the New England species of owls as visitants or residents, and this as a rather remarkable exception, as being abundant in New England and Newfoundland, and migratory. Owls are a peculiarly forest family, and our still remaining pine spruce forests, our barrens and lake country, give them shelter and food. The Great Horned owl, (*B. Virginianus*) the Barred owl (*S. nebulosum*), the Long and Short-eared owls (*O. vulgaris* and *B. palustris*), and the Saw-whet (*N. Acadica*) are resident, breeding with us, their nests and young having been taken, or they themselves having been seen during all periods of the year. The more arctic species are our winter visitants, breeding and nesting to the far north. The Great Grey owl (*S. lapponicum*) is a very rare visitant. The Snow owl (*Nyctea nivea*, and the Hawk owl *S. ulula*) appear during some winters, almost in flocks, a thing unusual for birds of prey, and showing great scarcity of food. The Saw-whet (*N. Acadica*) is seen approaching the clearings during winter, also in flocks, whilst Tengmalm's owl (*N. Tengmalmi*) is very rare. One sees them scarcely ever during the day time in our solitary forests either winter or summer.

During the night we hear them in our summer or fall camp. The fierce feline cry of the Great Horned, or the broader sounding hoots of the Barred, as well as the stridulous squeaks of the Saw-whet. Unless the hunter hides his grouse or hares he may have shot, cunningly beneath the snow, when he returns for them he will find that an unseen but watchful prowler has stripped off feathers or fur, torn and devoured them. This feeling of being watched by the unseen is one of the charms of our alpine forests. If you take your back track in early morning after coming to camp late in the evening, you will find you have been stealthily followed for many a mile by the tracks of the lynx or wild cat. During the night the foxes and the bears, nay even the moose, is warily reconnoitering the intruders, and the owls coming to the camp fire, all prowlers in the dark for what they may pick up. Of the diurnal Rapacidae, we find our Province has the usual New England species, yet there are a few noteworthy exceptions. I have never seen the Broad-winged or Pennsylvania buzzard here (*B. Pennsylvanicus*), nor the common English buzzard of Richardson (*B. vulgaris*), or the Short-winged buzzard (*B. butoides*). The kites also I have never seen. If they migrate north of us, as it seems they do, they go inland and not along the sea coast. Neither are they winter visitants. A stray Red-tail hawk (*B. borealis*) is seen during winter. But the Goshawk (*A. atricapillus*) may be called a persistent winter visitor. Specimens of him are brought to Halifax frequently at that time. He and his mate, all winter long, frequents the scrubby pines overlooking the Bay of Fundy from the North mountain, and the moose hunters have seen them feeding among the white snow upon the grouse they struck in the forest. Though this family do naturally resolve themselves into harriers, buzzards, hawks, and falcons, some pursuing live game, others pouncing upon it, others picking it from the ground, and taking lizards, frogs, and even insects, yet with the exception of the timid fish-hawk, the only one who takes his live meat, they all will descend to dead meat and carrion. The imperial eagles being the nearest in this to the vultures who never take their game alive. I have never heard of the bald-heads taking their fish alive, whilst the fish-hawk, if he drops his fish will never seek to reclaim it, seemingly having no instinct to catch fish except from the water. To him alone is due, if it is an honour, never

to sit, except to the Abyssinian banquet of quivering meat.

There are many traditions and stories of children being carried away by eagles; they are usually the traditions of former times, and of spectators and eye-witnesses long since relieved of the burden of flesh. But there is one instance which happened in Labrador, where the parties are still living. An English missionary was visiting a fisherman's family in their hut by the shore; the father of the family came stumbling in for his gun, in a most excited state he handed it to the missionary, saying, "I can't kill my own child, do your best." Gun in hand the clergyman stood upon the shore, and saw an eagle about eight feet in the air slowly rising weighted by the living child held by its clothing; he covered his bird, fired, and it dropt so gently to the ground that the child was unhurt, though the slugs by which the gun was loaded had done their work. This gentleman, the Rev. Mr. Wainwright, now holds a good position in the diocese of Honolulu, in the Pacific.

COLEOPTERA FOUND IN THE PROVINCE OF QUEBEC.

By WILLIAM COUPER.

In the Transactions of the Literary and Historical Society of Quebec for 1864-5, I published brief lists of the Coleoptera (Beetles) taken in the vicinity of the latter city, and other portions of the Province, formerly Lower Canada. Since then, through the exertions of a few local students, additional species have been added, which are here included. During the above years, L'Abbe L. Provancher was my *protege*, and I am pleased to state that in the determination to master the study, and through his subsequent publications benefit has been the result especially among the young French scholars in this Province. Considering that there are several Entomologists subscribing to this journal, I will publish the names of all the beetles so far found up to the latitude of Quebec. The species are numbered that collectors in adjoining Provinces may compare notes regarding Geographical range.

CICINDELA 1 *albilabris*, Kirby. I took this species at Lorette, north of Quebec, and at Godbout on the north shore of the St. Lawrence, in June.

2 *sexguttata*, Fabr. Generally in woods in May and June.

3 *purpurea*, Olivier.

4 *vulgaris*, Say.

5 *duodecimguttata* Dej.

6 *hirticollis*, Say.

7 *limbalis*, LeConte. I took this species at Natashquan, on the north shore of the St. Lawrence.

8 *repanda*, Dej.

9 *splendida*, Hentz. This species is given on the authority of Mr. Caulfield, who says it occurs on the Island of Montreal.

OMOPHROS *Americanum*, Dej. Rare.

ELAPHRUS 1 *ruscarius*, Dej.

2 *politus*, Lec.

3 *cicatricosus*, Lec.

BLETHISA *Julii*, Lec. Rare.

LORIGERA 1 *pilicornis*, Latr. Rare.

2 *Neoscotica*, Lec.

NEBRIA 1 *castenipes*, Lec.

2 *moesta*, Lec.

3 *pallipes*, Say. Rare.

NOTIOPHILUS *confusus*, Lec.

CLIVINA *rufescens*, Dej.

SCHIZOGENIUS *lineolatus*, Say.

APRISTUS *subsulcatus*, Dej.

BLECHRUS *linearis*, Lec.

CALOSOMA 1 *calidum*, Fabr.

2 *frigidum*, Lec.

CARABUS 1 *serratus*, Say.

2 *Lapilayi*, Laporte.

CYCHRUS *LeContei*, Dej.

DYSCHIRIUS *globulosus*, Putseys.

BRACHINUS 1 *fumans*, Fabr.

2 *cordicollis*, Dej.

3 *medius*, Lec.

LEBIA 1 *atriventris*, Say.

2 *tricolor*, Say.

3 *viridis*, Say.

4 *pumila*, Dej.

5 *scapularis*, Dej.

6 *fureata*, Lec.

7 *axillaris*, Dej.

8 *fusca*, Dej.

DROMIUS *piceus*, Dej. Rare.

METABLETUS *Americanus*, Schaum. Rare.

AXINOPALPUS *biplagiatus*, Lec. Rare.

CYMINDIS 1 *reflexa*, Lec.

2 *pilosa*, Say.

3 *neglecta*, Haldeman.

4 *laticollis*, Say.

CALATHUS *gregarius*, Dej.

PLATYNUS 1 *pusillus*, LeConte.

2 *bicolor*, "

3 *sinuatus*, "

4 *extensicollis*, LeConte.

5 *viridis* "

- 6 anchomenoides, "
 7 melanarius, "
 8 Harrisii, "
 9 limbatus, *Say*.
 10 metallescens, *LeConte*.
 11 cupripennis, "
 12 punctiformis, "
 13 excavatus, "
 14 picticornis, "
 15 nutans, "
 16 subcordatus, "
 17 ruficornis, "
 18 octopunctatus "
 19 chalceus, "
 20 placidus, "
 21 obsoletus, "
 22 picipennis, "
 23 stigmatosus, *Lec*.
 24 retractus, *Lec*.
MYAS foveatus, Lec.
OLISTHROPUS 1 parmesus, *Say*.
 2 micans, *Lec*.
PTEROSTICHUS 1 adoxus, *Lec*.
 2 lucublandus, *LeConte*.
 3 erythropus, "
 4 caudiculis, "
 5 luctuosus, "
 6 corvinus, "
 7 patruelis, "
 8 desidiosus, "
 9 mutus, "
 10 adstrictus, *Esch*.
 11 Luczotii, *Lec*.
 12 mandibularis, *LeConte*.
 13 maucus, "
 14 stygicus, "
 15 protensus, "
 16 permandus, "
 17 honestus, "
 18 protractus, "
 19 lachrymosus, *Newm*.
 20 coracinus, "
 21 punctatissimus, *Rand*.
 22 rostratus, *Lec*.
AMARA 1 musculus, *Say*.
 2 avida, *Lec*.
 3 exarata, *Dej*.
 4 angustata, *Say*.
 5 impuncticollis, *Say*.
 6 littoralis, *Zimmerman*.
 7 fallax, *Lec*.
 8 erratica, *Strum*.
 9 lævipennis, *Kirby*.
 10 interstitialis, *Dej*.
 11 obesa, *Say*.
 12 pygmæa, *Couper*. The type of

this species is in the Laval University collection.

- 13 subæna, *Lec*.
 14 indistincta, *Mann*.
BADISTER pulchellus, Lec.
DICÆLUS 1 simplex, *Lec*.
 2 teter, *Bonelli*.
 3 politus, *Lec*.
CHLÆNIUS 1 lithophilus, *Say*.
 2 sericeus, "
 3 chlorophanus, *Dej*.
 4 Pensylvanicus, *Say*.
 5 tricolor, *Dej*.
 6 impunctifrons, *Say*.
 7 tomentosus, *Dej*.
OODES fluviatilis, Lec.
SPONGOPUS verticalis, Lec.
AMPHASIA interstitialis, Say.
SELENOPHORUS granarius, Dej.
ANOMOGLOSSUS emarginatus, Say.
HAPLOCHILE pygmæa, Lec.
AGONODERUS 1 comma, *Fabr*.
 2 lineola, *Dej*.
 3 pallipes, "
ANISODACTYLUS 1 ellipticus, *Lec*.
 2 rusticus, *Dej*.
 3 Harrisii, *LeConte*.
 4 melanopus, "
 5 nigritta, *Dej*.
 6 discoideus, *Dej*.
 7 Baltimorensis, *ej*.
BRADYCELLUS 1 quadricollis, *LeConte*.
 2 lugubris, "
 3 cognatus, "
 4 ruprestris, "
HARPALUS 1 stigmatosus, *Germ*.
 2 caliginosus, *Say*.
 3 erraticus, "
 4 vividæus, *Beauvais*.
 5 Pensylvanicus, *LeConte*.
 6 compar, "
 7 erythropus, *Dej*.
 8 pleuriticus, *Kirby*.
 9 herbivagus, *Say*.
 10 laticeps, *LeConte*.
 11 faunus, *Say*.
 12 Lewisii, *LeConte*.
 13 varicornis, "
STENOLOPHUS 1 humilis, *Dej*.
 2 conjunctus, *LeConte*.
 3 fuliginosus, *Dej*.
PATROBUS 1 longicornis, *Say*.
 2 tenuis, *Rand*.
 3 rugicollis, "
 4 angicollis, "

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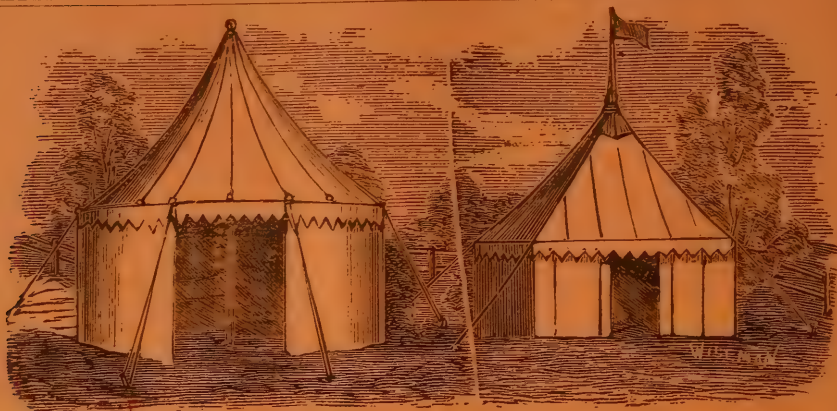
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MONTREAL, AUGUST, 1882.

Vol. II.

WILLIAM COUPER, Editor.

THE INTERNATIONAL FISHERIES EXHIBITION.

This Exhibition will be opened on the 1st of May, 1883, in London, England, and will remain open for a period of six months. The principal objects to be admitted are all kinds of specimens of fish-life, and to illustrate all the modes by which the Marine and Fresh-water animals of economic value are captured and utilised, together with the commercial, scientific, social, historic and legislative aspects of such fisheries.

The United States Congress have lately voted \$50,000 in order that fishing industries carried on by the American people may be properly represented! Our neighbours say that the amount invested by them for the Berlin Exhibition, was money well spent, and they are determined not to be behind in a show of this nature, especially when it is patronized by our beloved Queen and the male portion of the Royal family, also by foreign Princes and all the noblemen of the British nation. The Right Hon. Sir John A. Macdonald, K.C.B. Premier of Canada, represents our Dominion, as a Vice-President and member of the General Committee.

There is a Fisheries Department at Ottawa, and its Chief is a Council Minister; yet up to this instant, nothing has actually been done to illustrate in London next year, products from our great lakes and rivers throughout this vast Dominion. The Exhibition was in prospect months gone by, and to-day we find the men in charge of our Fisheries only commencing to procure material when the season is almost past. There are a few *pseudo* naturalists connected with the Government who seem to have all this kind of business arranged in their own way, and large sums of money is

expended from year to year on experiments that never return a cent into the Exchequer. We know that Mr. S. Wilmot of Newcastle, O. has done his share to make a successful show, but some one in the Department is to blame for procrastination and want of energy. When Mr. Wilmot exhibited his fishes at Ottawa, the Editor of this Journal competed with a collection of stuffed Food-fishes from the Province of Quebec; many of the latter species were different from those exhibited by the former gentleman. The Quebec Fish collection was offered to the Fisheries Department, at a reasonable price; the offer being made through Mr. Witcher, who knew that the lot was a bargain, and by his request, they were packed and left in Ottawa, to await a reply from the Chief of the Department. Some days afterwards an answer was received that the Department had no money to purchase Stuffed Fishes, and the collection was brought back to Montreal, where it was immediately purchased by Dr. Sterry Hunt and presented to McGill College Museum. Mr. Wilmot endeavoured to induce Mr. Witcher to purchase the collection, and probably they now regret not having secured it. A second collection was started by the same hands, which was exhibited at Mile-end, Montreal. The officers of the Fisheries Department were cognizant of this exhibit, but made no effort to secure it; therefore a part of it is now in McGill College Museum and the remainder was purchased by the Rev. C. J. S. Bethune and belongs to Trinity College, Port Hope, O. Now, the result is that these specimens are not available for loan, and from want of foresight much of the material which would represent the Food Fishes of the Province of Quebec, cannot now be obtained in time to be represented in the London Exhibition. If our Fisheries Department is to be a live Canadian Institution,

we want a long-headed, pushing man like Prof. S. F. Baird of Washington. A writer in the St. John (N.B.) *Sun*, seems to know more about our native food fishes, than the men at present in office. The Fisheries Department should be allowed facilities to form a museum of animals of economic value, coming from our marine and fresh waters, with the same opportunity to display objects of this kind here and abroad, as are extended to the Geological Museum. By the way, what are the naturalists connected with the latter institution doing? Why cannot one or two of them be sent to help Mr. Gregory down the Gulf? One man can do very little work in so short a time, especially on a steamer, and where is he to procure the material? It is absurd to send a man on an expedition of this kind. A good Taxidermist should have at least two assistants, besides means of procuring specimens. What has become of the objects collected in the deep sea dredgings in the Gulf? A schooner was employed to cruise in the Lower St. Lawrence, and it had a good crew to assist the dredging party, but something should be shown for the outlay. The Department of the Interior should also be at work. It has as much to do in procuring material for the coming Exhibition as a similar Department in the United States. Manitoba and the N. W. Territories have been represented; in fact the fish products of the latter regions are not even known in Ontario or Quebec. If we discover that the naturalists of the Geological Survey are lacking in energy, then something further must be said. The above statement is made that the public may learn something in regard to matters of this nature. The Montreal *Star* stated lately that Canadian museums had nothing Ichthyological to send to the London Exhibition. The writer made a mis-statement, as we know that Toronto University Museum contains a fine Canadian collection of Fishes and Reptiles. Laval University has quite a number of stuffed food fishes in its museum, and the

Literary and Historical Society of Quebec possesses a fair fish exhibit. The Natural History society of Montreal has a very good collection of the same material, and if the above institutions wished to send their combined collections to England, the total would be larger probably than that to be brought together by Scotland and England. But museum collections are not loaned, especially to go out of the country. We know a gentleman who has had experience of this kind; he made a loan of stuffed fishes for the Paris Exhibition; they were not returned, nor never will be. The fact is, they were supposed to be Government property, and it is therefore probable that they are at present in a French or British Museum.—C.

FISH-BREEDING IN CANADA.

We have before us, "The Daily Sun," St. John, N.B., containing over five columns of a review on Superintendent Wilmot's Report on Fish-Breeding. The writer in the *Sun*, although well posted in Ichthyology, comments rather severely, in fact spitefully against Mr. Wilmot's efforts to hatch fish. The reviewer charges as follows:—"That 'he (Mr. W.) failed in his quixotic enterprise;'—giving 'glowing accounts in his characteristic style of florid description and incorrect statement;' that he kept 'salmon stored up from July until November in that cesspool, the Carleton mill-pond, into which the sewerage of a large part of Carleton is drained,' and further 'that the Government has been paying vast sums of money in teaching this blunderer his science.'" The reviewer in the *Sun* has a perfect right to make a clean dissection of Mr. Wilmot's report, but when an attack is made upon a man's energy to develop and increase food fishes for the rich and poor of Canada, we think it is unjust to use such harsh language. Mr. Wilmot honestly states that he has failed in breeding *Salmo salar* on the borders of Lake Ontario, and he gives the cause. In fact, we were almost certain that the hatching of the latter species, so far inland, would ultimately fail. The Fisheries Department are greatly to blame for allowing so many stake-nets to block up the entrances of rivers. If salmon and trout are to be

caught by wiers and stake-nets, the latter should be placed one mile at least from the entrance of all the rivers, in order to keep the tide-way clear for the fish to reach the pools and spawning grounds. We believe also that the money spent in building fish hatcheries and maintaining officers, could be better and more profitably expended in improving the rivers and paying guardians or preventive officers to stop Indians and others from spearing salmon while depositing their *ova*. It is in these interior places that houses and officers are required. Leave nature to do its work, and place guardians on the spawning-grounds to prevent the fish from being disturbed, and doubtless a change for the better will soon appear. Parties renting a river, should be compelled to guard the estuary, seeing that the nets are properly placed, and the meshes of legal size. If this is done, we will hear of salmon becoming abundant—the fly fisher and net owner will have their share. The Government may do with the hatcheries what they think proper. We are satisfied that if salmon are not interfered with on their spawning-grounds, that more healthy fish will return to the sea from the natural hatchery than from the artificial one.—C.

BLACK BASS AND PIKE-PERCH.

We have had verbal accounts from various localities relative to inland fishing this season. Good sized Black bass and Pike-perch (*Doré*) are evidently abundant in some of the Quebec rivers, but especially the Canadian waters of Lake Champlain. Early in the season, Bass were found occupying grounds wherein schools of minnows occurred about sunrise. Sportsmen discovering the fish thus situated were then generally successful in taking Bass with a fly resembling a grasshopper. Black Bass are, at certain seasons, gregarious, following a leader, in the chase of small fishes; it is astonishing how Bass manages to secure sufficient of these small quick swimming fishes, but they do destroy numbers of them daily. All the species of fresh-water and marine Bass are truly carnivorous, preying on the weaker forms occurring in the same waters. We have opened the stomach of a large Sea Bass, sent to us from St. John, N.B., which contained thirteen adult herrings. Sometimes Black Bass have the same inquisitive nature noticed in the salmon and trout,

by rising to the artificial fly, when the colours of the latter attract its curiosity. Bass do not generally go in schools; but later in the day when the sun shines warmly, they separate retiring under the shade of aquatic plants or to rocky cavities, resting till after noon, when they return to deep water in search of food. Pike-perch (*Doré*) are ravenous feeders, especially in the morning, when they are in cool shallow water. At noon they do not, as a rule, seek the shade of plants, but move to deep water or a current in which to rest at a convenient depth, ready to devour any small fish passing or approaching them. The habits of Pike-perch are not unlike the common Yellow Perch when the latter attain adult form, it becomes a deep water wanderer, particularly where there are large ponds surrounded by marshes. This accounts for one making a good day's fishing over a certain ground, while the following day, the same place may turn out poor. There is therefore two portions of the day—morning and evening—that these fishes are on the move. Many persons who go fishing, return home either disheartened or disgusted when they meet with bad luck, often under the impression that no fishes were in the water, while in fact they were there—on their resting-grounds—but difficult to discover. A good indication of the presence of large fish, is in noticing minnows leaping over the surface of the water; the enemy is beneath them, and it is generally in the neighborhood of such places that large Bass, Pike-perch, and Maskalonge are to be found. We make these few remarks to give encouragement to the disappointed fisherman. Go to the same place again, and with a little experience, success may be the result.—C.

A PRIME FISH.

Mr. M. Wright, proprietor of the Cottage Saloon 74 St. Urbain street, Montreal, while trolling for fish on the south side of the St. Lawrence, near the foot of Lachine Rapids, struck a large Pike-perch (*Lucio-perca Americana*) commonly called *Doré* in this Province. His tackle consisted of a good silk line, rod and reel. The bait being Westwood's No. 4 gold and silver spoon; its concave side is red. The fish is 34 inches long, with the following circumference:—before pectoral fins 16 inches; centre of body 18 inches; front of anal fin 14 inches. Weight 13 lbs. Attached to the

little spoon are treble hooks of small size, trimmed with red, white and peacock herl. Mr. Wright played this fish for half an hour, and we look on it as a prime adult female *Doré*, of whose capture any sportsman would feel proud. It is to be stuffed for Mr. Wright.

LEMOINE'S BOOK ON ORNITHOLOGY.

J. M. LeMoine, Esq., of Quebec, is collecting material for a second edition of his French work on Canadian Birds. His aim is to produce a book which will be popular among students in seminaries, &c. There is no doubt regarding our esteemed correspondent's ability to write a scientific and agreeable treatise on our birds, and we wish him every success.

Correspondence.

LYNX RUFUS.—THE RED LYNX.

MR. EDITOR.—It gives me much pleasure to read the remarks on the Canada Lynx in your issue of June last. Having studied the subject, I wish to make some observations on the courteous notes referred to. What I understand the Peninsula of Ontario to be, is that portion west of a line drawn from Toronto northward to the south-eastern limit of the Georgian Bay. I have to-day sent down a typical specimen of *Lynx rufus*. Although I have obtained a few larger, the one sent by express, is a fair-sized animal. It weighed thirty-five pounds. Along with it you will find five skulls of different sizes; the largest is of an adult that weighed sixty-eight and a-half pounds. It was wounded with No. 5 shot about the end of January, but escaped; it was, however, found dead in March, 1879, and the skull is before you. I have trapped several of these animals, and handled dozens of their skins—young and old—in this section of Canada, and I never saw any variety but the one sent for your examination. I have long been of the opinion that these two varieties—species if you will—are one and the same; that *Lynx Canadensis* is merely a more northern form of *Lynx Rufus*; the varieties being produced by climate and food. This happens to other fur-bearing animals whose pelage is less developed in the south, and this causes much difference in color and general external appearance. I have before me Professor Jordan's "Manual of Vertebrates," and I give

the relative description of the two species side by side with my own observations in *italics* so that a comparison can be made without difficulty:

LYNX CANADENSIS.

LYNX RUFUS.

- | | |
|---|---|
| 1. Feet very large, densely turred beneath in winter, concealing the small naked patches. | 1. Feet not so much furred. "How do they differ in summer? They leave a very large track on the snow." |
| 2. Tail black at tip. | 2. Tail with black patch at the tip preceded by half rings. "In the adult these rings disappear, and are sometimes much more distinct in the young." |
| 3. No distinct bars on inner sides of legs. | 3. Inner sides of legs with dark cross-bars. "These are well-marked in the young but less so in the adults, and frequently there are none to be seen at all, <i>pure white</i> ." |
| 4. Much larger than next with larger feet and longer. | 4. Smaller—Less feet, less fur. |
| 5. <i>Habitat</i> — North America. | 5. <i>Habitat</i> — United States and Northward. |

In the specimen sent, there are merely blotches on the inner hind legs; the bars on fore legs are indistinct and mostly covered with white long fur that has to be separated to make them perfectly seen. There is a full tufted belt of long fur round the throat which, in old specimens I have seen very much larger. The ears are slightly tufted, but I have seen them more so, and over an inch of full pencelling on tips. It was shot in Kent Co., by Mr. Thos. Dusten, who kindly forwarded it. When in the flesh, the animal measured forty and a quarter inches from nostril to tip of tail. The specimen is, I think, about two years old, but a fair sample, although not adult. The largest skull belonged to an old male *L. rufus* which measured forty-nine and a-half inches from the nose to tip of tail. At first sight it may appear that the smaller skulls belong to a different species on account of the greater proportional development of the cavity of the

skull, but this is not so. I shall be glad to have information of the anatomical difference that is noticed in the osseous development and structure of the cranium, to develop distinct species. There is nothing in the descriptions of Jordan to prove anything specific, or that might not be produced by a high northern habitat. The greater quantity of fur on the feet and longer body fur generally point to the animal's geographical range. The dark spots are, I consider, from the appearance of the Lynx in early life, and these will naturally fade in a cold climate. They are carnivorous, but the difference in quality of food in both species must vary between Labrador and South Ontario. Yet the size of mature forms appear to be the same, and I aver having shot and trapped *L. rufus* over sixty pounds. The largest, I can attest was sixty-eight and a-half pounds; others killed far in the interior of the bush, were certainly as heavy. I have seen many much larger than the one killed by Mr. Dusten, near Wallaceburgh—in fact, various sizes above the kitten of a few pounds weight,—the latter are always distinctly marked with spots. Lynx generally hunt in pairs at a considerable, although convenient, distance apart, in spaces between two hundred yards and half a mile in order to head off their quarry. When in full cry, they give two quick yelps successively, followed by an unearthly scream while running with great rapidity. I have often heard them thus when the snow was two or three feet deep, and as many as six of the animals giving tongue in different directions. An unpractised ear might easily mistake them for the howls of a pack of wolves in full cry at night. They may be considered outlaws with bears, skunks, wolverines, *et hoc genus omni*; are very destructive to fawns, rabbits, lambs and poultry; they also destroy numbers of ruffed grouse on their nests, or in winter when the birds are buried at night in the snow, and I have seen the fatal traces on more than one occasion, where a Lynx or a Fox thus secured a supper. I shall be happy to procure a true *Lynx Canadensis* captured anywhere in Ontario, especially in the Peninsula, taken any time between the 15th of November and 12th of April. This will settle all disputes, and I will pay a reasonable price and carriage with pleasure. The spoor of the Red Lynx is large on snow, and although the feet are not so densely furred as its northern relative, the foot impression of *rufus* on the snow looks large and round in proportion to the size of the feet

of the animal in the dead state. They become fat at certain season, and they are eaten by Indians who pronounce them good. The *L. rufus* is at maturity when it passes its fourth year. The specimen sent is nearly adult; its sharp teeth and medium size are my proof, together with the semi-rings on the tail, now disappearing; also the black marks on under parts of body, which are much less in adults, and are frequently altogether absent or obliterated. It is easily trapped, not being very shy; nor has it the cunning of a Fox. When hunted by man alone, or by the latter with dogs in the forest, it takes to a thicket, being a nimble climber; cat-like, resting a short time on each limb. The ears are sharp, the tympani sensitive, and when danger approaches, it springs from tree to tree like a squirrel, sometimes leaving its pursuers hundreds of yards behind. The old trapper or Indian understand the feline tricks of the Lynx. I have followed and shot one that went nearly a quarter of a mile in this manner, hiding himself as a last resource, in a dense hemlock tree, forty feet above the ground. This is simple work after a fresh fall of snow. You have merely to mark carefully the first tree he mounts, as at its base, you will notice bits of twigs, moss, &c. on the fresh snow. As he springs away, he leaves additional marks which he throws down in like manner, but more scattered. By following the debris a broad trail is visible. It is with greater facility followed in a swamp, than in open ground, because there is generally more broken material thrown down, and the animal is easily detected. The Red Lynx springs easily from sight to fifteen feet, perhaps more. Once only during my hunting trips, I noticed a Lynx take a long spring from tree to tree. An Indian and myself chased it with two dogs for over three miles. The aborigine pointed the Lynx preparing to spring from a branch of a tree to another at least sixty feet from the ground. The extremities of the branches were three or four feet apart. The animal did spring and certainly cleared sixteen feet, but no more. Now, let any one of your readers consider how far the space is in mid-air, from that portion of a limb capable of supporting forty-five or fifty pounds of live Lynx throwing himself to an opposite branch of similar strength. Let one consider the muscular force and accuracy of eye required by the animal to reach the object of escape. The young *L. rufus* in my opinion approaches Jordan's *L. Canadensis*. Mr. Henderson found

it near Lucknow, and I had the pleasure of receiving it from him. They (the old ones) are very shy during the breeding season, after constructing a bed in a hollow log or some secluded place. On one occasion, in July, many years ago, I was in Turnberry Swamp looking for pigeons. I had a dog wandering about with me, and he gave tongue at some distance; it was near sunset and I hurried towards the place, thinking he had attacked a Porcupine. On arriving where the dog was, I saw a large Lynx and two young ones (kittens) which on my approach, entered a hole at the base of an elm tree, before I could cover them with my rifle. The old one made frantic charges at the dog which I called away from the contest, and after I closed the hole with fallen limbs, to keep the party secure, I went home. Early next morning in company with a neighbour, the place was visited, but to our astonishment a hole was opened in another place at the base of the tree, and the Lynx and kittens gone. I give a short account of the skulls of *L. rufus* sent to you for inspection, all of which were killed within a few miles of this place.—

No. 1—Adult male, shot by me in January, 1879. Length 49½ inches. Weight 68½ lbs. This was one of the largest I met with, and am sorry to have lost the skin.

No. 2—A female. I presume three years old. Weight 53 lbs; Length 48 inches. Shot February 23, 1882, by Mr. Alfred Haldingby of Culross Township, Ont. In this instance also I lost a very fine specimen.

No. 3—Young female trapped and shot in the head by Mr. Sutherland Taylor, 1878, in Wawanosh Township, O. Length 38 inches; Weight 30 lbs.

No. 4—A young male, shot by Jos. Henderson of Lucknow, O., who gave me the animal fresh. Length 38 inches; Weight 25 lbs.

No. 5—Young male, shot by myself, on December 1, 1881, in Ashfield Township. Weight 27 lbs. Length 37¾ inches.

In the last three the symphysis and the sutures are not solidified. They are therefore the skulls of young *L. rufus*.

I sincerely hope this may draw forth the opinions of others on the Lynx forms occurring in Canada, I trust moreover that a valuable periodical like "The Canadian Sportsman and Naturalist" will soon have means to illustrate subjects of this description.

J. H. GARNIER, M.D.

Lucknow, Ont.

NOTE.—We have received the specimens sent for examination. The adult skin and the stuffed kitten are specifically *L. rufus*. The whole of the skulls belong to the latter species. Our correspondent quotes Jordan's Manual of Vertebrates to distinguish between *L. Canadensis* and *L. rufus* which comparatively we consider very vague. Independent of the permanent marks and general colour of *L. rufus*, when the Dr. has an opportunity of comparing *L. Canadensis*, he will discover that the latter is a true and well defined species. It is futile to deny the occurrence of the two species in Ontario. Without giving the osteology of the animals, we may state positively that they are not alike. First in an exterior view, we notice that the marks behind the ears of the kitten of *L. rufus*, are permanent in the adult. The Dr. has overlooked these evident specific marks which do not occur in *L. Canadensis*. A frigid climate will doubtless alter the exterior markings or colour of animals unused to a low temperature. We know that a coolie dog when taken from Scotland to an Arctic region, there to remain for three years, causes the animal to erect its ears and change colour but the osseous parts are still those of a coolie. Exposure to a frigid pressure is even remarkable in the human form, when subjected to the same influence. We have no space to go further at present, but in the meantime the subject can be looked into by our readers who may give additional light on it.—C.

RARE BIRDS IN ONTARIO.

SIR,—Having read with much pleasure, in your valuable journal, accounts of other collector's experiences in the Ornithology of our country, the thought struck me that some of my notes might be acceptable to you. During this Spring, from 8th April until 23rd June, I, in company with my assistant, were collecting at Mitchell's Bay, and adjacent marshes, where we preserved over one thousand four hundred specimens of birds, fish, reptiles and birds eggs; but the bird that

astonished us most by its numbers, was the Lapland Bunting or Longspur (*Plectrophanes lapponicus*). The inhabitants told us they occur there every winter, and are called by them the black or dark Snow-bird, but to us they began to appear about the 17th of April. First we observed three flying over us as we were tramping the marshy shore in search of desirable species coming in our way. The Buntings were leisurely flying eastward, constantly uttering notes differing somewhat from those of the Snow Bunting (*Plectrophanes nivalis*) being harsher and in a different tone. The following Sunday, April 23rd, I was reading in the house of our host, when my assistant returned from a walk on the shore; he informed me that he noticed a flock of about two hundred birds which were strange to him, and very remarkable by their black throats. When these birds alighted on the ground, a person could walk into the midst of the flock, within six feet of many of them, but on the least noise being made, they would become alarmed, rising in a circular manner to the height of about seventy feet, and for a time disappear. We saw flocks of from six to one hundred and fifty almost daily until about the 20th of May, when they left us altogether. The specimens shot at the latter date were invariably females, but we succeeded in collecting about sixty, many of which are beautiful adult males. Why do not these birds occur at or near Hyde Park or London, while they are so abundant at Mitchell's Bay? I presume they follow the shore of lakes, therefore passing over the latter places; at all events I have not hitherto heard their notes, although collecting birds in the neighbourhood during the last seven years. I had a single specimen in my collection and looked on it as rare until this Spring. It was shot near St. Thomas, Ontario. The song of the Lapland Bunting is very similar to that of the Purple Finch (*Carpodacus purpureus*), and they were in full song after we noticed them. We collected one specimen of the Cape May Warbler (*Dendroica tigrina*) which is the first I have seen in this region.

JOHN A. MORDEN,

Hyde Park, Ont., July 1882.

NOTE—We have no record of the occurrence of the Lapland Bunting in the Province of Quebec. The Snow Bunting (*P. nivalis*) is frequently accompanied in early Spring with

the Shore Lark (*Eremophila cornuta*). The latter is abundant on the Labrador coast flying in flocks in Spring. The inhabitants say they make an excellent pie.

DEAR SIR,—C. J. G. Fraser writes in July, about *Anthus ludovicianus*, and from various reasons I think the bird is the Shore Lark (*Eremophila cornuta*). The Lark is common here through the summer, while *Anthus ludovicianus* only occurs during the migrations and then sparingly. Shore Larks almost always breed on commons where cows feed, and their nests are generally placed in a small hollow on level ground. That is the single difference between C. J. G. F.'s account of *ludovicianus*, and my observations of *cornutus*. I have often seen the latter rising in flight, singing its "sweet note," until it reaches a height of "perhaps fifty feet," when suddenly closing its wings, it drops perpendicularly till within about twenty feet of the ground. Generally, however, the bird mounts much higher, often so high that, lying on my back on the ground, I have had some difficulty in following its flight; probably the distance would be about two hundred yards. Mr. Fraser was evidently a tyro in Ornithology at the time of his observations, confounding two birds which to-day he would at once recognize as distinct species. *Query*.—How far east have Orchard Orioles reached? They are very common in Kent County, not rare here; a small number breed, but I have not heard from further east.

Yours truly,

W. E. SAUNDERS.

London, O., July 22nd, 1882.

COLEOPTERA FOUND IN THE PROVINCE OF QUEBEC.

By WILLIAM COUPER.

- BEMBIDIUM 1 paludosum, Panzer.
2 inaequale, Say.
3 chalcum, Dej.
4 nigrum, Say.
5 simplex, LeConte
6 lucidum, "
7 semistriatum, Hald.
8 rupestre, Dej.
9 patruelle, "

- BEMBIDIUM** 10 *variegatum*, Say.
 11 *versicolor*, LeConte.
 12 *fontale*, "
 13 *4-maculatum*, Linne.
 14 *bimaculatum*, Kirby.
 15 *impressum*, Gyll.
 16 *transversale*, Dej.
 17 *incrematum*, LeConte.
 18 *diadatum*, "

- TACHYS** 1 *nanus*, Schaum.
 2 *flavicauda*, Say.
 3 *incurvus*, "

- HALIPLUS** 1 *triopsis*, Say.
 2 *immaculicollis*, Harris.

- CNEMIDOTUS** 12-*punctatus*, Say.

- AGABUS** 1 *tristis*, Aubé.
 2 *punctulatus*, Aubé.
 3 *semivittatus*, Lec.
 4 *punctatus*, Mels.
 5 *hypomelas*, Mann.
 6 *bifarius*, LeConte.
 7 *fimbriatus*, "

- HYDROPHORUS** 1 *conoideus*, LeConte.
 2 *spurius*, "
 3 *modestus*, Aubé.
 4 *puberulus*, Lec.
 5 *catascopium*, Pay.
 6 *similis*, Kirby.

- LACCOPHILUS** *maculosus*, Germar.

- COPTOTOMUS** *interrogatus*, Fabr.

- MATUS** *bicarinatus*, Aubé.

- COLYMBETES** 1 *biguttulus*, Germar.
 2 *binotatus*, Harris.
 3 *sculptilis*, "
 4 *4-maculatus*, Aubé.
 5 *picipes*, Kirby.
 6 *agilis*, Fabr.

- ACILIUS** *fraternus*, Lec.

- DYTISCUS** 1 *confluens*, Say.
 2 *Harrisii*, Kirby.
 3 *verticollis*, Say.
 4 *Cordieri*, Aubé.
 5 *fasciventris*, Say.

- GYRINUS** 1 *ventralis*, Kirby.
 2 *fraternus*, Couper.

The type of this species is in the collection of Laval University, Q.

- DINECTUS** 1 *Americanus*, White.
 2 *discolor*, Aubé.

- HELOPHORUS** 1 *lacustris*, LeConte.
 2 *scaber*, "
 3 *lineatus*, Say.

- HYDROBIUS** 1 *tumidus*, LeConte.

- 2 *digestus*, "
 3 *globulosus*, "
 4 *regularis*, "
 5 *fuscipes*, Curtis.
 6 *subcupræus*, LeConte.
 7 *despectus*, "

- HYDROCUS** *squamifer*, "

- HYRÆNA** *Pensylvanica*, Krizenwetter. Rare.

- HYDROPHILUS** 1 *triangularis*, Say.

- 2 *lateralis*, Fabr.
 3 *glaber*, Herbst.
 4 *mixtus*, Lec.

- HYDROCHARIS** *obtusatus*, Lec.

- BEROSUS** 1 *striatus*, Say.
 2 *peregrinus*, Herbst.

- LACCOBIUS** *agilis*, Randall.

- PHILIDRUS** 1 *cinctus*, Say.
 2 *fimbriatus*, Mels.
 3 *æraceus*, "

- CERCYON** 1 *posticatum*, Mann.
 2 *unipunctatum*, Linn.

- CRYPTOPLEURUM** *vagans*, Lec.

- NECRODES** *surinamensis*, Fabr.

- THANATOPHILUS** 1 *lapponica*, Herbst.
 2 *marginalis*, Fabr.

- NECROPHILA** *peltata*, Lec.

- SILPHA** *inaequalis*, Fabr.

- NECROPHORUS** 1 *marginatus*, Fabr.
 2 *pustulatus*, Herschel.
 3 *orbicollis*, Say.
 4 *lunatus*, Lec.
 5 *Savi*, LaPorte.
 6 *velutinus*, Fabr.
 7 *pigmæus*, Kirby.
 8 *mortuorum*, Fabr.
 9 *Melcheimeri*, Kirby.

- CATOPS** *opacus*, Say.

- ANISOTOMA** *collaris*, LeConte.

- LIODES** *dichrea*, "

- AGATHIDIUM** *oniscoides*, Beauvais.

- SCYDMENUS** *rasus*, LeConte.

- TYRUS** *humeralis*, "

- FALAGRIA** 1 *dissecta*, Erichson.
 2 *venustula*, "

- HOMALOTA** *plana*, Gyllenhal.

- ALEOCHARA** 1 *fuscipes*, Fabr.
 2 *lata*, Grav.
 3 *limaculata*, Fabr.

- COPROPORUS** *ventriculus*, Kraatz.

(To be continued.)

ORIENTAL FRUIT LAXATIVE.

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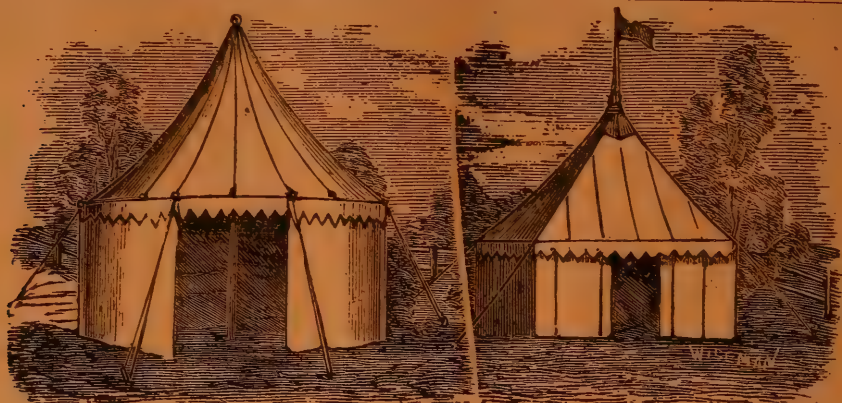
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VOL. II.
No. 9.
1882.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 9.

MONTREAL, SEPTEMBER, 1882.

VOL. II.

WILLIAM COUPER, Editor.

CALIFORNIAN SALMON AND OUR SALMON RIVERS.

The introduction of foreign SALMONIDÆ into Canadian waters inhabited by *Salmo salar*, is, in our opinion, unnatural. There is no necessity for introducing Californian Salmon into our northern rivers; *S. salar* has too many enemies already without adding to them. We know sufficient of the Natural History of the latter fish to say that it will never agree with another species inhabiting the same river—the weaker must succumb to the stronger—the Californian fish where it is planted with success, will ultimately cause *salar* to abandon our rivers. The men who are anxious to carry out these changes, would possibly prefer the Californian to the European form of salmon, but we think it would be more satisfactory to retain the latter; our sportsmen understand its habits, knowing it to be the most gamy fish that enters our rivers. A charge is made against an overseer for casting young Californian Salmon into ice holes on the St. John, (N.B.) river in the month of March. We think the man did perfectly right in getting rid of them in this way. It is a waste of money to endeavour to restock a river with salmon when the tributaries are interfered with. The woodlands surrounding the mountain springs should be allowed to remain in their primitive state. We care not how magnificent a river may appear to the eye of man, salmon, as a rule, will not enter it when its immediate woodlands and flowing mountain springs are destroyed. All the best salmon rivers in this Dominion are generally wide, swift-running, with falls and pools a few miles from the sea, but let us follow any of them for some distance inland, and they will be seen to diverge into a number of

small tributaries, arising from cold mountain springs, many feet above the sea level. Then, we say, if salmon are to be increased in future, these springs must be retained in their old state. How is it that we cannot procure discriptions of the inland sources of several rivers in the Province of Quebec? Simply because officers of the Fisheries Department never took the trouble to explore them, and it is only at this late day when many of the rivers have passed from their control that they begin to think there is something in the upper waters in connection with continual existance of salmon;—that in fact the inland streams are becoming caloric, and salmon will not remain there—therefore no matter how beautiful the river and its pools may appear, so long as the head sources of a river is unfit for the hatching of salmon *ova* and the propagation of young fish, it will be useless to endeavour to restock it, the parent fish will leave it forever.

There is not sufficient trouble taken to obtain a knowledge of our rivers—we mean the upper portions—the natural hatcheries. It is always gratifying to one interested in a river, to see numbers of fish passing up, but it would be greater satisfaction to ascertain how far they go inland; the temperature of the water, and the locality selected by them for their future progeny. A short time ago, Mr. Gilmour, wishing to obtain this information regarding the Godbout, sent intelligent men many miles up to explore the land. They returned with a satisfactory report; passing through a rugged region, with many lakes and rivulets falling into the main river. The lakes contain plenty of fish food peculiar to inland waters; in fact, abundance for salmon during their stay in the inland waters of the Godbout sources. Through the care of natives for Mr. Gilmour's woodlands along the river,

so far they have escaped from fire. This is not the case with rivers further down the coast, where large tracts of the interior have been burnt thus destroying the cover on the margin of streams where salmon deposit their *ova*. We remember some years ago, when the whole of the interior lands behind Natashquan were set on fire, lasting three months, in fact, until it burnt itself out, and we know that for years following, salmon decreased in the rivers inhabited by them on this portion of the coast.—C.

THE FORESTRY CONGRESS.

It is the duty of Canadian and American Sportsmen and Naturalists to take an interest in the protection of the forests of their respective countries. Sportsmen on both sides of the line must keep a sharp lookout in order to preserve the wild animals inhabiting our forests. Game animals are disappearing simply because their selected homes are invaded by human rangers who go out in quest of timber for the benefit of the present generation. Forest material must be obtained of necessity, but from what we have seen surrounding lumber shanties, there appears to be enormous waste not only of woods of commercial value, but by fire and gun, animals are destroyed in a merciless manner. Lumbermen have been known to cut down more than they are able to carry away.—Majestic trees which stood at some distance from an aquatic outlet, have been chopped and left where they fell,—all lost for want of proper judgment. This occurred to our knowledge on the high woodlands of the upper Assomption River; it is therefore no wonder that the Company failed to prosecute a profitable lumber trade in this region. The subject of forest protection and replenishment is of the highest importance, and the welfare of this Dominion depends in some degree on the future supply of good commercial woods. We have, in the lands already denuded and at present a waste, space

and earth-food for a duplicate crop of such trees. Who will undertake to cultivate this fresh growth? The Local Governments of the Dominion should certainly do something to have their burnt and waste Crown Lands replanted. Dr. A. D. K. King of Compton says:—"If it is prudent, not to say a duty, of Governments and other lessors of large tracts of wooded lands, to preserve the timber from waste, it were equally so the duty of individuals. A large and important part of this Province is divided into lots, some of which contained too much timber for general purposes for agriculture, the farmer possessing a new lot, looking upon every tree as an enemy, and seeking to destroy it in order to give him space for tilling the soil. Other lots, which had little woodland, the owner did his best to economize. He would suggest that before felling, a careful examination should be made so that the dead or dying trees might be selected. Propagation might be done by seed sowing or planting."

Many years ago, Mr. Todd, the Librarian of Parliament, suggested to the writer, the necessity of agitating this subject through the Canadian press. He saw at that early day, a time drawing near when a vigorous cry would arise regarding the enormous drain on our forests; that in consequence of the continual demand for timber of various kinds, our woodlands would ere long be exhausted, unless means were taken to replant the lands annually weeded of the best trees. His words are now verified; men are awakened to enquire into the matter. We are pleased to give this short record of the efforts of intelligent men who have lately met in Montreal to consult on Forestry and trust that in a short time their labours will be rewarded; that Parliament will notice a strong pressure of facts from without. The next good move should be a Congress of American and Canadian Sportsmen to provide correct means for the protection of Fish and Game of both countries. There are several interesting subjects which may be discussed at meetings of true Sportsmen—such as the effect of forest fires causing the decrease of animals; fish and

game protection in an American and Canadian view; harmonizing the Game Laws of the Provinces; correct nomenclature of the Game animals and other kindred subjects. American sportsmen have a greater interest according to numbers and position, in taking part in a Congress of this nature than we have, besides there is something congenial in a meeting of true sportsmen; All have the same objects in view. We at least protect the bulk of woodcock and snipe bred in the north, more for the benefit of our neighbouring sportsmen than our own. We do the same with geese and ducks, classed as game occurring on the waters of both countries.—C.

THE ST. FRANCIS SALMON.

The Sherbrooke *Examiner* of 4th ultimo, made a charge against Mr. W. C. Willis, a Fishery Overseer, for granting permits to take salmon from the tributaries of the St. Francis River with "fly and minnow." An anonymous writer in the Montreal *Star* of 12th ult. reiterates it *cum grano salis*, under the sig. of "One who has caught Salmon with a rod." The *Star* knows this salmon-rod sport; he is doubtless known to the Fish and Game Protection Club of Sherbrooke, and we trust they will look further into the matter. We now see that "W. C. W." takes the *Star's* sport by the nose, telling him that he is lying in every particular, notably regarding the catching of salmon with "dip-nets" at Brompton, or with the fly or minnow near the latter place. The Overseer says:—"I have consulted several old sportsmen, who assert most emphatically that they never heard of or saw a salmon which was caught (in the St. Francis) in the manner spoken of by your correspondent. It would be interesting to be informed of the time and place of this extraordinary catch. The Fisheries Department, as a great favor, granted fifteen days to catch a few salmon, by the only means they can be taken, in that river, at which this person grumbles, while he fails to notice the thousands that are yearly taken in rivers of the lower St. Lawrence by nets and pounds, of

which we in the townships seldom or ever get a taste. These fish begin to ascend the St. Francis River annually about the middle of July, thence they pass up the Salmon River to the spawning grounds situated in the township of Ditton. During their passage up they seem to refuse all food; the most fascinating fly has been thrown across them, but all in vain, not a "rise" can be got, though the burnished sides of the tempting beauties are plainly visible beneath the current." Taking a truthful view of Mr. Willis' statement—i.e.—that salmon pass up the St. Francis "annually about the middle of July, when they refuse all food; even the most fascinating fly," is a peculiarity in the history of *Salmo salar* unknown to us. We have no knowledge of this river as far as Brompton, but it is however evident that no pools or falls interrupt the fish to the latter place. Mr. Willis says that they "pass up the Salmon River to the spawning-grounds situated in the Township of Ditton," but we have no proof that a "rise" can be had even in this river. If it is true, we now say to the Fishery Department, place a guardian on the upper waters of this river. Here, we have an overseer stating that salmon go up the St. Francis (we suppose) without resting, continuing on to inland waters called the Salmon River, on the upper sources in which the fish spawn. This locality is the place we wish to see guarded. The cool mountain tributaries; the woodlands surrounding these spawning-grounds should be protected. Taking Mr. Willis' statement that no salmon were caught on the St. Francis by fly or minnow, during the last thirty years, we suggest that no netting be allowed on any portion of the rivers for three years at least. By so doing, good results will follow, and salmon will become abundant in these rivers, and they may be tempted to make their way to waters further inland. We say protect the Ditton Township spawning-grounds, facilitate passages for salmon endeavouring to mount the St. Lawrence above Quebec, and there will be no

necessity for the people of the townships saying that while salmon are caught "in nets and pounds" in the Lower St. Lawrence, we, the people of "the townships seldom or ever get a taste." "The fifteen days granted to catch a few salmon by the only means they can be taken in the St. Francis shows that the overseer has been allowed by some one in the Department to give parties liberty to catch salmon on the two rivers during this space of time, therefore, considering every word so far published on the subject, the charge of the complaining party has some foundation in fact, as the overseer acknowledges that the fish are allowed to be caught by nets of some kind during the space of fifteen days. Can any one give us additional information regarding the locality in which the netting of salmon occur in the St. Francis? When the facts are given us then the subject matter will be properly sifted.—C.

THE ENTOMOLOGICAL SOCIETY OF ONTARIO.

ITS ANNUAL MEETING IN MONTREAL.

A meeting of the Council of this Society was held at the residence of Mr. G. J. Bowles, Vice-President, on Thursday, August 24th, at 11 o'clock a.m. The following officers were present:—William Saunders, President, London, Ont.; G. J. Bowles, Vice-President, Montreal; Rev. C. J. S. Bethune, M.A., Port Hope, Ont.; E. Baynes Reed, Secretary-Treasurer, London, Ont.; James Fletcher, Ottawa, Ont.; J. M. Denton, London, Ont.; William Couper, Montreal; W. H. Harrington, Ottawa.

The Secretary-Treasurer read the annual reports, which were found satisfactory. After discussing several subjects relative to the welfare of the parent society and its branches, the members examined Mr. Bowles' fine collection of insects, many of which were greatly admired. The Council then adjourned until three o'clock p.m., to hold the annual general meeting in the rooms of the Natural History Society. There was a good attendance, including many ladies. After Mr. Saunders called the members to order, the Secretary read the annual report of the

Council, which gave the reasons for holding the meeting outside of Ontario. It had been felt that the selection of Montreal for the meeting of the American Association for the Advancement of Science and the consequent gathering of distinguished entomologists from the other side of the line, together with the members of the Montreal Branch, would afford an opportunity not to be missed, and accordingly the Hon. S. C. Woods, Commissioner of Agriculture for the Province of Ontario, had been applied to for permission to hold the annual meeting in Montreal, to which he gladly consented. It was therefore a point of no small importance in the history of the Society, and they heartily welcomed all their foreign brethren. The report referred to the endeavor made in the Dominion Parliament last session to get scientific books for libraries on the free list, which was unsuccessful, but they were hopeful that in the next session they would meet with better success, for the imposition of this duty did no good to any one, as our Canadian publishers did nothing in that line. It expressed regret that the Entomological Section of the American Association had been merged in Section F (Biology) which might prevent the adequate discussion of their particular branch of natural history, and hoped that members would endeavor to form a club for the more frequent discussion of their beautiful science.

The annual report of the Montreal branch was considered in every way satisfactory.

The election of officers was then proceeded with, resulting as follows: Mr. Wm. Saunders, London, Ont., President; Mr. J. G. Bowles, Montreal, Vice-President; Mr. E. Baynes Reed, London, Ont., Secretary-Treasurer; Rev. C. J. S. Bethune, Port Hope; Messrs. J. A. Moffat, Hamilton; James Fletcher, Ottawa; Rev. F. W. Fyles, Cowansville, P. Q.; Messrs. J. M. Denton, London, Ont.; W. H. Harrington, Ottawa, and W. Couper, Montreal, composing the Council. The auditors chosen were Messrs. Chas. Chapman and H. Bock, and the President was reappointed editor of the *Canadian Entomologist*.

The following embraces the substance of

THE PRESIDENT'S ADDRESS.

Mr. Saunders, on rising to deliver his annual address, was loudly applauded. He said that he felt it was no common period in the Society's career; it was the first time they had met outside of Ontario, and in the name of the Society he offered his felicitations to all

who were strangers. The insect that had attracted the most attention during the past year was undoubtedly the Hessian Fly, which had injured the wheat crop in Ontario about 20 per cent., or to the value of many hundreds of thousands of dollars. Since 1878 they had been comparatively free from this scourge, but now they had returned in very great magnitude. He described the manner of the growth of this dreaded pest and their effect on the plants they ruin. No successful measures had yet been devised for their cure or killing; some people advocating the immediate reaping and thrashing of the wheat; others were for burning the field as it stood, but it must be remembered that this would also kill the many friendly parasites who were the farmer's friends; and some people were in favor of harrowing the stubble and thus clear the ground. But in his opinion the only effectual remedy was late sowing, which rendered the wheat better able to withstand its enemy. He referred incidentally to the parasites to which the farmer was very much indebted for their destruction of hurtful insects. He had noticed in Ontario what many people doubtless thought did not exist in this country, he referred to the Phylloxera which had caused so much damage in France to the vines. A person untutored in the matter would be greatly surprised at the extent to which it prevailed, and he explained the time and manner of the growth of the insect and the way it went to its deadly work. He showed some examples of the Diplosis, the only parasite inimical to the Phylloxera, and expressed the hope that it would be extensively distributed in districts where the latter prevailed. The short fruit crop of the year had been put down by many to insects, but it was in reality the very wet weather and low temperature that prevailed in the Spring. He looked forward to an excellent crop, all things going well in 1883, as it was generally the case after a short year. It was the opinion of many that California was the fruit grower's paradise, and it undoubtedly was so till 1874, when insects were rare. Since then, however, they have begun their ravages, and the State Legislature has been compelled to make provisions for their prevention. An inspector is appointed, with sub-inspectors, authorised to visit each grower, and in the event of his not obeying certain regulations, he was liable to a fine. The whole process only costs the State \$10,000 a year, and he was of opinion that if it proved

a success in the Far West, it should be tried here in the East. It was certainly the right thing to do in their case and why not in ours. The President resumed his seat amidst loud applause.

The annual meeting of the Entomological Society of Ontario then adjourned, and Dr. Hagen, of Cambridge, Mass., drew attention to the status of the Entomologists in relation to the section of Biology in the A.A.A.S. The Entomological Club had, a year or two since, been merged in that section, and that state of affairs is not satisfactory at present.

GENERAL MEETING OF ENTOMOLOGISTS.

Dr. Hagen moved a resolution that the Entomologists resume their old status in relation to the Biology Section, but without any regular organization, the understanding being that they meet a day before the A.A.A.S. each year, and that Mr. Lintner, of Allany, be responsible for due notice, etc., in calling them together.—Carried.

There is a feeling of discontent among the American and Canadian Entomologists regarding their present status in connection with the American Association for the advancement of Science, i.e., their transfer to section F. in Biology, which doubtless will terminate in the formation of an International Union of Entomologists, who can meet wherever they please to discuss their subjects without embarrassment.

Springing from inquiries made by Mr. Fletcher, an interesting discussion took place on the cotton moth, he said, Mr. Riley, of Washington, had made investigations which had all gone as evidence to prove that the insect had no other food plant than the cotton plant. Specimens of the cotton moth had been found in the Northern States and Canada, where no cotton grew, but these might have flown there, as the moth was capable of immense flights. Mr. Riley did not believe it could perpetuate itself outside of the cotton belt.

Dr. Hoy, of Racine, Wisconsin, said he had found a specimen of the cotton moth in the north whose wings had not hardened; it must have been born there. Other gentlemen had met with the same experience.

Mr. Saunders thought it possible that insects so found had been brought to the finding place either in an egg, larva or chrysalis state in nursery plants, etc.

The evidence recited by various speakers went to show that while in a number of cases the cotton moth had been found sometimes with crippled wings, far away from the cotton belt, still no plant other than the cotton plant had been discovered on which they could live.

Before the meeting broke up, Dr. Hagen and Mr. Henshaw, of Washington, gave interesting accounts of their visit this summer to Washington Territory for the purpose of collecting and studying the insects of that region.

The following American Entomologists took a part in the proceedings, Prof. Comstock, Ithaca, N.Y.; R. Dodge, Washington; Homer F. Bassett, Waterbury, Conn.; Prof. C. H. Ferland, Orono, Maine. All had an exceedingly pleasant time in examining the rare insects which members brought there for identification. We agree with Mr. Saunders that Entomologists should endeavor to devote more time to investigate the life histories of insect parasites, in order that farmers may be educated to discriminate friends from foes; we retain the opinion that there are insect parasites following every form from the hard shelled beetle to the soft bodied spider, or even lower and more minute forms of insect life. No one thought of noticing the minute Hymenopterous insect which destroys the chrysalis of the Cabbage Butterfly, yet, the parasite is said to have existed on this continent long before the introduction of the butterfly into Canada. Too much time have been given to the study of large American insects; many Entomologists look on minute forms of *Hymenoptera* and *Diptera* as significant, whereas these creatures may turn out to be our friends, and profitable to us. They are placed here for some purpose, and their economy should be studied.

A subsequent meeting was called by Mr. Lintner at the residence of Mr. Bowles, to consider the formation of an Entomological Club. The following gentlemen attended—Messrs. W. Saunders; H. F. Bassett; Prof. Riley; Prof. McCook; Rev. F. W. Fyles; H. H. Lyman; Prof. Claypole; R. Dodge; Ernest D. Wintle; G. J. Bowles and W. Couper. Nothing definite was done regarding the desired change, the feeling of a few members tended to allow matters to remain as they are at present. After a pleasant conversation on other Entomological topics, all parted with the hope of meeting again.—C.

Correspondence.

ANSWER TO CORRESPONDENTS.

W. A. H., Sherbrooke—Maple trees have been introduced into the United States and Canada from many parts of the globe. Over twenty varieties from Japan. Maple is popular as shade and lawn trees in all American cities, from sixty to seventy varieties are used. The species which attracted your attention on Drummond street is native; called the Silver Maple (*Acer dasycarpum*). Its growth is rapid; form irregular; foliage light green, silvery underneath; very hardy and easily transplanted. It is one of the best avenue trees. Three other species, viz—the Scarlet or Swamp M. (*A. saccharinum*); the Sugar or Rock M. (*A. nigrum*), are used as ornamental trees in the neighbourhood of Montreal. Ruffed Grouse and allied northern species and the Ptarmigan have the habit of burying themselves under soft dry snow, but whether the former remain long enough to be frozen in and perish, we cannot say. Numbers of Ptarmigan have been found dead in the woods of Labrador in spring. They are supposed to have been caught by a sudden frost making them prisoners, and death ensued from starvation.

Mr. John A. Morden, Hyde Park, Ont.—The skins of the Lapland Longspur (*P. lapponicus*) have been received. They are carefully made up and a credit to your art. Since we stated that the species have not been obtained in the Quebec Province, Mr. N. A. Comeau of Godbout, informs us that he can procure them every season at his place. We will publish your observations on the breeding habits of the Red-headed Duck, or any other water-fowl found on the St. Clair Flats.—C.

THE MONTREAL DOG FANCIERS' ASSOCIATION.

We have before us, the prize list and rules for governing the first Annual Exhibition, which takes place on the 18th, 19th and 20th instant. The names of the officers for the current year are as follows:—Major Thomas A. Evans, President; C. E. Gagnon, Esq., and Wm. Mackenzie, Esq., Vice-Presidents; John F. Campbell, Esq., Secretary; James Lindsay, Esq., Treasurer; Dr. J. E. Nichol; J. Nelson, Jr., Esq., George Jordon, Esq., J. A. Pitt., Esq., John Wilson, Sr. Esq., and Sergt. B. T. Holbrook are the Committee of Management.

E. C. Barber, Esq., and R. H. Kilby, Esq. are the Judges, who will be guided by the Vero Shaw Standard of excellence. A properly organized association of this kind was really required in Montreal, and the men at its head are just those who will strenuously adhere to the Constitution and By-Laws. A sportsman is nowhere successful unless he is followed by a well-trained dog, and without an institution of this nature, that class of dogs required for the chase, will never be more than a series of mongrels. Under the new organization, we anticipate an attractive exhibit with beneficial results.—C.

THE GODBOUT RIVER SALMON SCORE.

On an average, three rods were employed on the above river this season. The total catch being 384 salmon. In one day, Mr. Manuel of Ottawa, landed thirty-one fish. Considering the scarcity of salmon for three years past in the Gulf rivers, the old Godbout still holds good for a month's surface fishing. Its Salmon and Sea Trout spawning-grounds are far in the interior, and although the mountain Indians may occasionally traverse along the tributaries in which the fish are lying, they do not interfere with them. Extreme want alone will cause these people to disturb salmon while in their mountain waters. The aborigines of the district are generally well treated by Allan Gilmour, Esq., the proprietor, and they have therefore great respect for him.—C.

Deanery, Kingston, Ont.

11th August, 1882.

DEAR SIR,—Many thanks for your interesting and instructive "Naturalist," which I have taken since the beginning.

On my son's farm near this city, I saw some gamy birds, very like Quail, but with a dark yellowish breast. Upon securing a specimen and taking it to an expert, he called it a "Meadow Lark;" is it the "*Eremophila cornuta*" or what?

Faithfully yours,

JAMES LYSTER, LL.D

NOTE—The breast of the Meadow Lark (*Sturnella magna*) is a clear yellow when it visits the North in Spring. It may be found in fields as far east as Kingston. The American Sky Lark (*E. cornuta*) is smaller than the Meadow Lark and its breast is differently

marked. Of late years this Lark nests in Ontario and Quebec. Neither of these birds are classed as game, although a dog will point at the Meadow Lark, we suppose from noticing the gamy colour of its back, and its peculiar mode of locomotion during the nesting season. We shall be pleased to hear from the Dean again, as enquiries of this nature have a tendency to encourage the young in the delightful study of Ornithology.—C.

COLEOPTERA FOUND IN THE PROVINCE OF QUEBEC.

By WILLIAM COUPER.

TACHINUS 1 fimbriatus, Grav.

2 fumipennis, Say.

TACHYPORUS 1 jocosus, "

2 acandus, "

CONOSOMA basale, Erichs.

BOLETOBIUS 1 cinctus, Grav.

2 cincticollis, Say.

3 bimaculatus, Couper.

The type of this species is in the Laval University Cabinet.

QUEDIUS 1 melochinus, Grav.

2 fulgidus, Fabr.

3 capucinus, "

CREOPHILUS villosus, Grav.

LEISTOTROPHUS cingulatus, Grav.

STAPHYLINUS 1 maculosus "

2 badipes, Lec.

3 cinnamopterus, Grav.

4 violaceus, "

5 capitata, Bland.

6 fossator, Grav.

7 tomentosus "

8 varipes, Sachse.

OXYPIUS ater, Grav.

PHILONTHUS 1 cyanipennis, Fabr.

2 aeneus, Rosse.

3 blandus, Grav.

4 ventralis, Say.

5 promptus, Erichs.

6 lomatus, "

7 fulvipes, Fabr.

8 longipennis, Provancher.

Is this specific name appropriate?

XANTHOLINUS 1 cephalus, Say.

2 obsidianus, Mels.

3 hamatus, Say.

BAPTOLINUS melanocephalus, Nord.

CRYPTOBIUM 1 bicolor, Grav.

2 pallipes, "

- LATHROBIUM** 1 longiusculum, *Grav.*
 2 simile, *Lec.*
 3 puncticolle, *Kirby.*
 4 dimidiatum, *Say.*
LETHOCHARIS confluent, "
SUNIUS longiusculus, *Mann.*
PAEDERUS 1 littorarius, *Grav.*
 2 riparius, *Fabr.*
STENUS femoratus, *Say.*
OXYPORUS 1 rufipennis, *Lec.*
 2 stygius, *Say.*
 3 vittatus, *Grav.*
BLEDIUS 1 fumatus, *Lec.*
 2 semiferruginosus, *Lec.*
PINOPHILUS latipes, *Er.*
PLATYSTETHUS Americanus, *Erich.*
OXYTELUS rugosus, *Grav.*
ANTHOPHAGUS brunneus, *Say.*
ACIDOTA subcarinata, *Erich.*
LATHRIMGEUM sordidum "
OMALIUM plagiatum, *Mannh.*
ANTHOBIMUM protectum, *LeConte.*
MICROPEPLUS costatus, "
HISTER 1 depurator, *Say.*
 2 fedatus, *Lec.*
 3 Americanus, *Paykull.*
 4 planipes, *Lec.*
 5 interruptus, *Beauvais.*
 6 bimaculatus, *Linne.*
 7 marginicollis, *Lec.*
 8 LeContei, *Mars.*
 9 attenuatus, *LeConte.*
 10 civilis, "
SAPRINUS 1 distinguendus, *Mars.*
 2 sphoeroides *Lec.*
 3 ferrugineus, *Mars.*
SCAPHIDIUM 1 quadripustulatum, *Say.*
 2 piceum, *Mels.*
MYCETOCHARUS bicolor, *Couper.*
 The type of this species is in the Cabinet of
 Laval University, Q.
OLIBRUS nitidus, *Mels.*
PAROMALUS bistriatus, *Er.*
DENDROPHILUS punctulatus, *Say.*
BRACHYPTERUS urticae, *Fabr.*
COLASTES truncatus, *Randall.*
CARPOPHILUS 1 niger, *Say.*
 2 brachypterus, *Say.*
 3 discoideus, *Lec.*
CONOTELUS obscurus, *Erichs.*
EPURÆA 1 rufa, *Say.*
 2 borella, *Erichs.*
 3 vicina, *Lec.*
 4 convexiuscula, *Mann.*
NITIDULA 1 zigzag, *Say.*
 2 bipustulata, *Linne.*
- NITIDULA** 3 rufipes, "
LOBIOPA undulata, *Say.*
THYMALUS fulgidus, *Er.*
OSMITA colon, *Linne.*
PHENOLIA grossa, *Fabr.*
CRYPTARCHA ampla, *Erichs.*
IPS 1 fasciatus, *Olivier.*
 2 4-signatus, *Say.*
 3 sanguinolentus, *Cliv.*
 4 Dejeani, *Kirby.*
BACTRIDIDIUM nanum, *Erichs.*
TROGOSITA 1 dubia, *Mels.*
 2 intermedia, *Horn.*
NOSODES silphides, *Newman.*
PELTIS 1 ferruginea, *Linne.*
 2 4-lineata, *Mels.*
CERYLON castaneum, *Say.*
SYLVANUS advena, *Erichs.*
NAUSIBIUS dentatus, *Schaum.*
CUCUJUS clavipes, *Fabr.*
LÆMOPHLEUS biguttatus, *Say.*
CORTICARIA cavicollis, *Lec.*
CATOGENUS rufus, *Fabr.*
PEDIACUS planus, *Lec.*
BRONTES dubius, *Fabr.*
PARAMECOSOMA serrata, *Gyll.*
ANTEROPHAGUS ochraceus, *Mels.*
CRYPTOPHAGUS cellaris, *Erichs.*
DERODONTUS maculatus, *Mels.*
LATHRIDIUS pulicarius, "
PSEPENUS LeContei, *Hald.*
MYCETOPHAGUS 1 punctatus, *Say.*
 2 flexuosus "
 3 bipustulatus, *Mels.*
TRIPHYLLUS ruficornis, *LeConte.*
LITARGUS tetraspilotus, "
DIPLOCÆLUS brunneus, "
DERMESTES 1 lardarius, *Linne.*
 2 marmoratus, *Say.*
 3 talpinus, *Mann.*
ATTAGENUS megastoma, *Fabr.*
TROGODERMA ornata, *Say.*
ANTHRENUS varius, *Fabr.*
ORPHILUS ater *Erichs.*
BYRRHUS 1 Kirbyi, *Lec.*
 2 Americanus
NOSODENDRON unicolor, *Say.*
ONTHOPHAGUS ovatus, *Linne.*
CYTILUS alternatus, *Fabr.*
LIMNICHUS punctatus, *Lec.*
HELICHUS lithophilus, *Germer.*
STENELMIS crenatus, *Say.*
HETEROCERUS mollinus, *Kies.*
PLATYCERUS 1 quercus, *Weber.*
 2 depressus, *Lec.*
CERUCHUS piceus, *Weber.*

(Continued from page 155, No. 7.)

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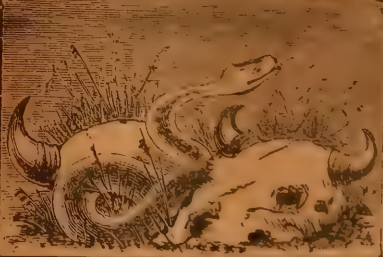
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THE

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A
MONTHLY
JOURNAL



VOL. II.
No. 10
1882.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 10.

MONTREAL, OCTOBER, 1882.

VOL. II.

WILLIAM COUPER, Editor.

SINCE the first issue of this magazine, my object has been to produce original matter, cognizant that unless new material appear each succeeding month, the chance of success would be poor indeed. It is my intention to devote a portion of the journal to Entomological subjects—the study of insects at present occupies the attention of many intelligent men and women throughout the continent of America—therefore, I solicit correspondence of a popular nature from all quarters—north, south, east and west—regarding Entomological matters. My friends across the line, may rest assured that great care will be taken to avoid errors, and that communications for publication will be looked over as carefully as if revised by the author.

DEEP SEA FISHING.

Our American maritime neighbours are continually on the look-out for something new in the way of food fish; not satisfied with the products of inland waters to supply their customers, they regularly resort to the edge of the Gulf Stream for deep sea fishing; the latest haul being from a depth of one hundred and twenty fathoms, obtaining a new food fish said to be of great value. The specimens taken range from one to four pounds in weight; the flesh white and delicious. Dr. Baird, the Secretary of the Smithsonian Institution, will probably give an early report on this new addition to the fish fauna of the United States. The species will, doubtless, form a feature of interest at the Fisheries Exhibition in London next year. After all the boasted wealth of Canada as a fish-producing country, the greater portion of the fresh fish sold in Montreal and other Canadian cities, generally comes from Portland; and for all

that, large sums of money is annually expended to develop our maritime and inland fishing industries. It will be ere long acknowledged that American fishermen can show that they are far ahead of us in their plans to procure material to supply the continual drain upon their markets. The fishing industry of the State of Massachusetts alone is enormous; nothing on our marine waters can compare with it. There are characteristics in the Gloucester fishermen that are apparently wanting in many of our men who derive a living from the products of the sea. The former will risk everything and even go out of their latitude to obtain a new object in this line of trade, while the latter generally prefers to keep within their old landmarks, preferring to return to shore with a meagre catch, after undergoing the old style of misery which they are repeating and enduring every season of their existence. There is something radically wrong in the fishing systems pursued by the people residing on the Canadian sea coasts. The majority of these toilers from boyhood were compelled to follow this rough work for a simple sustenance, and consequently education was neglected. The attempts so far made to establish schools to enlighten the poor fisherman, have been few indeed. To my knowledge, but two schools exist on the Labrador coast, one of which is supported by a few friends in Montreal. The harvest of the sea is in the hands of monopolists who have no stake in the country, whose aim is to make money while fish bite and sun shines—caring not a cent how their men fare so long as the piles of fish go on increasing around their establishments. These companies, in my opinion, are liable and should pay a business tax. Their summer establishments are in the Maritime Provinces, while they reside comfortably during

winter in Europe. They should certainly pay for the privilege of squatting on our territory, and carrying off the best fish to foreign markets. As for the labour and system of pay the fisherman is ground down, doubtless, under a contract of dependence; his work from day to day is merely chance, and in many instances after the season is over, he finds himself in his employer's debt. This system of slavery should not be allowed; it is now time to expose it, and I trust that some philanthropist will take up this matter in the interest of the poor fellows who toil on the sea risking their lives for a mere existence. This disgraceful system of sweating the Canadian deep-sea fishermen should be thoroughly explained at the approaching International Fisheries Exhibition in London. A subject of this nature comes under class II, "Economic condition of Fishermen," section 4, "Contracts of Partnerships." The Committee offer a prize for the best essay on fishing industries, and as the matter is of great interest to Canada, some one should attempt it.—C.

DEPARTMENTAL BLUNDERS.

A New Brunswick Inspector of Fisheries has brought the Government into trouble by interfering with riparian rights. It appears that the Department at Ottawa in its efforts to enforce an order-in-council in direct opposition to the second section of the Fisheries Act and in defiance of the judgment of the Supreme Court of New Brunswick, which has recently been confirmed by the Court of Appeal at Ottawa, ordered this Inspector to follow out their instructions. The first suit was that of Spurr *vs.* Venning, which we believe went to appeal. Three suits have since gone against the Department, viz., J. H. Phair, Esq., of Fredericton *vs.* the Inspector of Fisheries, for seizing his fishing tackle; Mr. Phair's damages amount to \$511. The second suit was brought against the same officer for the same action, by Judge Steadman, and resulted in a verdict for damages to the extent of \$3,000. The third suit was brought by Mr. Hanson, of the Crown Lands Office, against the same officer for a similar seizure, and a verdict was given for \$1,000

damages. In all the Department will have to pay \$5,731 for ordering an officer to carry out the instructions of the Government. The above does not include the costs. All this through ill-considered instructions submitted by the Minister at a meeting of Council from whence the order emanated.—C.

ORNITHOLOGICAL QUERIES.

Young Pigeon Hawks (*Hypotriorchis columbarius*, Gr.) were abundant in the Province of Quebec this year. Can any of our correspondents give us additional information regarding the nidification of this species?

A Whip-poor-will (*Antrosiomus vociferus*, Bonaparte) was shot lately by W. H. Rintoul, Esq., on the south side of the St. Lawrence, not far from the river. It is in this year's plumage, indicating that it was bred not far from the Island of Montreal. Have the notes of the Whip-poor-will been heard on the Island?

Can any of our readers give us the chemical composition of the saliva used by the Chimney Swallow to build its nest? Why does this Swallow prefer breaking off dead twigs from a tree by force of flight in preference to selecting the same kind of branches which have fallen to the ground?

We notice the Purple Martin (*Progne purpurea* Boie.) every summer in the neighborhood of Montreal. Can any person inform us if they nest on the Island?

How far east in Ontario has the nest of the Ground Robin or Towhee Bunting been found?

Did anyone discover the nest of the Western Grebe (*Podiceps occidentalis*, Lawr.) nesting in the Province of Quebec? The young birds are shot sometimes near Montreal in the fall.—C.

* NATURAL HISTORY NOTES.

BY THE EDITOR.

Mr. F. B. Caulfield, a member of the Montreal Branch of the Entomological Society of Ontario, obtained the prize at the late Montreal Exhibition for a collection of insects methodically arranged, illustrating the native species injurious to vegetation.

One important omission, probably not thought of, at the late election of officers of the Province of Quebec Forestry Association

is the appointment of an Entomologist. Trees during their growth are more or less subject to the depredations of insects, therefore enquiry will be made regarding the cause. If the Association is to be extensive and successful in their work, the nomination of an honorary consulting Entomologist should not be neglected. The planter is not generally supposed to understand the internal and external diseases of trees in this latitude. It is not too late to remedy the oversight.

I wish to call the attention of Ottawa entomologists to a Hymenopterous gall found by me some years ago near Billing's Bridge. It attacks the roots of a species of *Rubus*. See "Canadian Entomologist," vol. II., pages 68-98. During the late meeting of the American Association for the Advancement of Science in Montreal, in conversation with Mr. Bassett on the subject, he informed me that the gall has not been rediscovered since, and that he is anxious to obtain specimens. Will some one connected with the Ottawa Field Naturalists' Club endeavour to find the gall? He will be greatly pleased if some entomologist devotes a little time in the search. Mr. Bassett is working on the genus *Diastrophus*, and the root-galls of *Rubus* would form quite a valuable addition to American literature on the subject.

In an article on the milk plant and its insect parasites, page 10, vol. I, "Canadian Sportsman and Naturalist," I made out a list of insects which either live on its roots or on the leaves when the plant is progressing towards maturity. So far, I have shown that the milk plant (*Asclepias*) supports insects which are remarkable for two definite colours, red, (reddish-orange) and black. An addition is made this year in the form of a tufted caterpillar *Euchates egle*, Drury, which is also red and black. The common *Asclepias* of Montreal mountain was literally covered with these caterpillars in August, 1882. I collected a number of these larvæ, some of which formed

cocoons. On the 10th September, a *Dipterous* fly emerged from one of these cocoons which corresponds to the description of the male of *Tachina* (*Lydella*) *doryphoræ*, Riley, which preys on the larvæ of the Colorado potato beetle. This being a prolific year for *E. egle*, I am anxious to hear of my confreres' experiences in rearing the moth, and especially regarding its parasites in the caterpillar state.

In a skin of a Grizzly Bear examined lately I found several pods of a prickly vetch or pea imbedded in the hair. Each pod contained from two to four peas, evidently in the best state of preservation. Here we find a bearskin carrying healthy seed—probably many days since the animal was shot near the Rocky Mountains—after undergoing the process of dressing. I have noticed some curious ways by which seeds of plants have been distributed, but the present instance is certainly extraordinary. The little pods were found at the base of the hair on the posterior sides of the skin of the animal. They evidently attach themselves to the hair like the seed of the common burdock, but the latter becomes matted in the fur. These pods seem to have a creeping power, as they are covered with numerous spines, some of which are hooked at the point, and they were all found at the base of the hair, from which they were extracted with difficulty. I notice this peculiar mode of seed distribution in order to ascertain if others detected similar circumstances in the hair of quadrupeds.

Speaking of Wasps' nests, at page 150 of "Packard's Guide to the study of Insects," published in 1869, he says that "no parasites have been as yet detected in this country." I look on "this country" entomologically, as embracing the limits of Dr. Le Conte's geographical distribution of Coleoptera—i.e., from the Gulf of Mexico to the Arctic Circle—a plan which Dr. Packard follows in his Guide—therefore Canada is within the meaning of

the term "this country." By referring to page 104 vol. I, "Canadian Entomologist," a description will be found of *Euceros burrus*, Cresson, found by me as a parasite in the nest of *Vespa maculata*, at Ottawa, in October, 1868. I had, at the latter date, discovered a second species attached to the cells of paper-making wasps found near Ottawa, which shows that Mr. Packard should have at least remarked the discovery of one species in this country. My Ottawa friends should look out for the other forms parasitic on wasps occurring in their neighbourhood.

Entomologists please make a note of what Vennor wrote to the Montreal *Witness* on September 1st. He says that "the woods along this portion of the Maine coast are everlastingly green—being of pine—and this color is not much affected by heat or drought. In these woods there is ample scope for the entomologist in studying the habits of the pine-boring beetles which abound. They are still hard at work cutting off the tops of the branches and boring down into the soft pith, in which they deposit their eggs." Entomological knowledge is not advanced one iota by the above. I am loth to make remarks on the subject; but in the first place, to show the ignorance of the writer, I say that the pine boring beetles do not cut off the branches of pine trees, neither do they deposit their eggs in the pith. In fact, the pine-boring beetles will not attack a perfectly healthy tree (if they did there would not be many living trees in the forests to-day) but the moment that decay shows itself, then the parasites appear and the work of destruction commences, not in the living branches, but in the dead wood—the solid trunk. My friend Vennor better let Entomology alone; to commence dabbling into it at this age of this science, will not only be a source of annoyance to himself, but to those actually making it a study; the latter can manfully stand up and tell the truth as there is nothing to be gained from stating otherwise. Vennor's story of the pine woods on the coast of Maine appears similar to that

related by an ordinary educated European from a ship's deck when passing the Island of Anticosti in June; the landscape looks green and therefore beautiful; there is something enchanting about it, but the eyes of the stranger are deluded; he merely passes by, carrying impressions of his first visit to a new country. That is all—with the exception that he did not see the pine-boring beetles.

In skinning an adult grey squirrel, on the 21st September, a larva of a bot-fly was found beneath the skin, half way between the cheek and upper frontal part of the femora of the right fore leg. The larva (maggot) at this date, measures 7-8 inch long, covered with numerous rust-coloured dots and short stiff hairs. The mouth is provided with two sickle-shaped teeth. The insect belongs to the Order DIPTERA: Family OESTRIDÆ: Genus *Cuterebra*, i.e.—subcutaneous bots beneath the skin of animals. The hole made by the larva measures 2-8th inch in diameter. This insect, it is said, inserts the egg (in fact it is possible that some of the insects belonging to this class of Diptera may be viviparous, nevertheless the wound made by so small an object after its insertion into the animal's skin, would not probably produce sufficient irritation to cause trouble, but when the wound is thoroughly enlarged by the maggot becoming longer and wider, the poor squirrel must suffer while it occupies the cell,) into the squirrel's skin, just in a place where the animal cannot easily reach it with its tongue, and after the parasite penetrates to a sufficient depth, all effort made by the squirrel to destroy the cause of irritation is ineffectual, until the insect attains its perfect larval form, when it ceases to annoy the animal by leaving it altogether.—*Gastrophilus equi*, Fabr, is the species which we call the Horse Bot-fly, and I have known an instance of this insect finding its way into the stomach of a man who resided at Stoneham, north of Quebec. The fly deposits its eggs on the horse's body where the animal can reach

them with its tongue, thereby conducting the eggs into its stomach. This man, after giving his horse water from a pail, foolishly drank a portion of it himself, therefore taking into his stomach a number of Bot-fly eggs which became detached from the horse's lips. Of course he became sick and after suffering days of pain, resorted to an over dose of whisky as the only remedy at hand, when he vomited a number of larva which were sent to me and which I pronounced to be the Horse Bot-fly. There are cases on record of man's death caused from carelessness in drinking water after his horse. Dr. Wright of Toronto has a man's liver in spirits, which is full of larva of the Horse Bot-fly. People cannot be too careful in matters of this kind; it should at least be known that insects which can withstand the temperature of a horse's stomach, may also habituate themselves to live in the larva state in the stomach of man; therefore I say, no matter how clean the exterior skin of the horse may appear, never drink water from the same vessel from which your horse drank. The genus *Cuterebra* are those which seem of interest to us at present. We are anxious to procure further information regarding those that are parasitic on the wild quadrupeds of our forests—such as deer, bear, wolverine, ground-hog, squirrels, hare and the wood-mice. One species *Hypoderma tarandi*, Linn, is said to infect the reindeer. The genus *Estromyia* is thought to inhabit the hare. Of the former genus, Dr. Fitch described a species *Cuterebra emasculator*, Fitch, which lives in the scrotum of the black squirrel, which it is known to emasculate. *C. buccata*, Fabr., inhabits the body of the striped squirrel; it generally attacks the animal in the region of the kidneys.

Butterflies belonging to the genus *PIERIS* (one of the species destroys cabbage in the vicinity of Montreal) were not generally supposed to feed on plants far removed from the latter. In the last number of "Papilio," a proficuous magazine devoted to the study of

Butterflies and Moths, edited by Mr. Henry Edwards of New York, I notice an elaborate paper from the pen of my old correspondent R. H. Stretch of San Francisco, Cal. It appears that Dr. Hagen of Cambridge, Mr. S. Henshaw of the Natural History Society of Boston, Mass., and Mr. Stretch, three Entomologists, accompanied the U. S. North Transcontinental Survey this summer. At Spokane Falls, Washington Territory, in July, at an altitude of 1900 feet above the sea, they discovered and partially studied the habits of *Pieris monapia*, Feld., var. *suffusa*, Stretch. During the latter month "the air was alive with butterflies flitting round the pines in countless numbers, and glistening against the dark green of the young timber like the most delicate snowflakes. Some idea of the immense numbers of the insect may be gathered from the fact that in the infected district, on every little pine, though not more than two feet high, each terminal branch of needles, from one to twelve larvæ or pupæ could be counted, and every weed could show its quota of pupæ." The trees which this butterfly destroys in Washington Territory are the Balsam Fir (*Abies balsamii*), the Tamarac (*Pinus contorta*), and the Yellow Pine (*Pinus ponderosa*). "The area actually visited, where serious damage has already been committed, extends about twenty-five miles north and south, with an unknown width, and in this region all the Yellow Pines have been nearly or totally stripped of their foliage, as well as many of the smaller species of *Coniferae*. The first impression was that fire had scorched the tops of the trees, so brown and withered did they look in their clothing of dark, blackish moss; and before the cause of this effect had been discovered, it was only by persistently remembering that all the large fir trees were green that the idea could be kept out of the mind." Now this insect occurs in California and Vancouver's Island, and "is evidently of very wide distribution, latitude in the north taking the place of altitude in the south, and consequently the same phenomena which we are here called to note may occur in localities where the timber is both denser and more valuable." It will be a poor lookout for our forest pines if this butterfly visits the Dominion, and I cannot see that its further northern course can be prevented; although a delicate butterfly, it has better facilities of coming here than the Colorado beetle had. Yet it may be presumed

that so long as it is not kept down by birds, bats and insect parasites in its present home, it will probably keep within the territory which it now devastates. It appears that nature has supplied this butterfly with an abnormal habit hitherto unknown to the genus on this continent—that of descending from the branches to the ground by means of a silken thread.

THE AMERICAN SNIPE.

(*Gallinago Wilsonii*, Bon.)

The arrival of snipe with us in the spring is very uncertain, but depends entirely upon the state of the season. If the spring opens late they remain here but a few days, passing hurriedly to their breeding grounds in the far-North. On their return from the north with their young, they pay us a visit before going south, reaching us in September; the first cool weather having prompted them to seek winter quarters. They make their autumnal migrations in stages in advance of hard freezing, stopping and resting on the route. The snipe lies best to a dog on warm sunny days, when gentle winds are blowing, and if feeding in high tussock meadows will sometimes not take flight until nearly trodden upon. But during blustery weather, especially if the wind is from the north-east, they are very loth to allow even the most steady dog to come within thirty or forty yards of them. This is more noticeable in the spring, when the birds have first arrived, and are in wisps or bunches, than in autumn, when they appear to have made up their minds to stay for a while previous to moving southward. Sometimes, particularly on a dark drizzling day, which is the weather they prefer for their flights, the flushing of one bird will be the signal for every snipe in the field to rise with a sharp "skeap," "skeap," and the air will be filled with their bleating and their irregular flights. Perhaps they will join in a flock and fly beyond the range of vision or again individual birds may drop with their peculiarly rapid descent until all have settled again. There is no difficulty in marking down a snipe, their quick, dropping motion is unmistakable. Beating for snipe with the wind at one's back, has always been advised by experts, as the bird invariably rises against wind, and flies at an angle towards you, either to the right or left, thus presenting a more easy shot than when going straightaway in a zigzag course. Frequently when flushed, a bird will dart away, flying low at first, but

gradually rising will soon seem but a speck in the sky, and then disappear from view, let the hunter keep for a few minutes his position, and quick as flash the bird may drop down within a few yards of his former resting place. This is not always the case, however, as often the snipe may leave not to return. The probable explanation of this is, that in the first case the ground from which the bird was driven afforded good food and cover, and the snipe was loth to desert so attractive a spot. In our estimation no sport is comparable to an October day with the snipe if they be tolerably plenty. Undoubtedly the perfection of snipe shooting is had in Florida during the winter months. In some places so thickly do they congregate that a dog is an impediment rather than a help, though a good retriever is very useful when there is much water.

THE GOLDEN PLOVER.

(*Charadrius Virginicus*, Borek.)

This is a fine game bird, confined neither to the interior nor to the coast alone. None of our game birds seem to be more generally known, for it is scattered apparently over the whole face of the land—from the fur countries to the Gulf, and from ocean to ocean—breeding in the most northern portions of the continent, to which they annually repair about the beginning of May, and commence their return journey during September. These birds, though naturally timid, and usually very shy of the approach of man, are easily reached, provided the proper precautions are taken by the hunters. In the Western States and prairie land where there is no cover for the gunner they are usually shot from waggons; and from their apparent inattention to enemies thus equipped, it would seem that their fear of humanity is limited to man in his primitive condition only, for after volley upon volley has been poured into their ranks with deadly effect, they pass along in unbroken line only to receive another cross shot in their next circuit of flight as they pass over a favorite feeding place of newly ploughed ground or in a grasshopper or cricket range. In the autumn, and more particularly after a protracted drouth, these birds resort regularly to the sand beaches or rocky points of the nearest streams for the purpose of washing and quenching their thirst. As the flock comes into sight a shrill whistle is usually the first welcome, then the chorus of a hundred

voices chime in as though rejoicing at the sight of the liquid element. Such is their ecstasy as they wheel around over their favorite bar, and such their utter disregard to the booming of guns, that dozens are dropped upon the water, the wounded fluttering in every direction, while the column wheels into line again right over the spot where its dead and wounded companions lie, only to be thinned again and again, until finally driven away. Ordinary precautions seem forgotten or abandoned by these birds when approaching a favorite watering place; and when met with under such circumstances it is conclusive evidence that they have not been long from the breeding grounds, and that most of them are young and inexperienced.

Correspondence.

ANSWER TO CORRESPONDENTS.

R. McK., Newcastle, N.B.—If you possess "Packard's Guide to the Study of Insects," you have the best work for a student of American Insects. "Harris' Insects injurious to Vegetation" is an accurate work, but we have no book published in the United States or Canada specially devoted to one order of insects. There are seven distinct orders of insects, all of which are largely represented in America, and it will require many more years of collecting and careful investigation before we can obtain separate works on the orders of American insects. You do not inform us what order you study. Let us know, and we may lead you to obtain information. In regard to English names for our insects, we question if they can be applied even to the butterflies of this continent. The extent of territory is so great and the species so diversified that Mr. Scudder of Boston, an eminent entomologist who attempted it is now ridiculed for so doing. Latin names are certainly preferable and more simple, especially for classification, and a child can learn and retain them almost as easily as a dressmaker remembers the names of the paraphernalia of her business.

SIR,—In the last issue of THE CANADIAN SPORTSMAN AND NATURALIST, a copy of which is before me, I notice the following article under the signature of "C.":—"The Sherbrooke Examiner" of the 14th ultimo, made a charge against Mr. W. C. Willis, Fishery Overseer, for "granting permits to take salmon from the tributaries of the St. Francis River with 'fly and minnow.'" I beg to state that no such article as the above ever appeared in the Examiner or any other paper, consequently there is no truth in it; it is purely a stretch of the imagi-

nation of the writer. Among other extraordinary things he alleges that W. C. W. took the "Star's sport by the nose!" And becoming somewhat mixed, he says, "some one in the Department must have given liberty to catch salmon in the two rivers, and if any one give additional information as to the facts, the subject matter 'will be properly sifted.'" As the Department, or any one else, never contemplated giving any such liberty, there can be nothing to "sift." The entire article exhibits great want of candor or ignorance, or something best known to the writer. W. C. W.

Sherbrooke, 2nd October, 1892.

NOTE.—Since the inception of THE CANADIAN SPORTSMAN AND NATURALIST, articles bearing the signature "C" have been written by the Editor. The first remarks coming under our notice relative to granting permits to take salmon on the St. Francis river appeared in the Star, who quoted the Sherbrooke Examiner. Subsequent seemingly corroborative statements were published in the Star, under the signature "One who has caught salmon with a rod." This was followed by a letter from "W. C. W.," an extract from which is given in last month's issue of this journal, wherein he says that "the Fisheries Department, as a great favour, granted fifteen days to catch a few salmon by the only means they can be taken in that river." There is no stretch of imagination or anything mixed in the matter on our side of the fence, but the correspondence indicates something wrong. May we ask if "W. C. W." wrote that letter to the Star, where it is stated that "the most fascinating fly has been thrown across them, but all in vain, not a rise can be got, though the burnished sides of the tempting beauties are plainly visible beneath the current." How can "W. C. W." harmonize the statement of a fifteen days' grant to catch salmon in the St. Francis, with the last paragraph of his above letter? Does he wish to take the Editor of this journal by the nose? In regard to "W. C. W." taking the Star's sport by the nose, literal phrases are generally used metaphorically, therefore the ontology has no existence unless "W. C. W." wrote that letter.—C.

COLEOPTERA FOUND IN THE PROVINCE OF QUEBEC.

BY WILLIAM COUPER.

- ONTHOPHAGUS latebrosus, Strum.
 APHRODIUS 1 fossor, Linn.
 2 fimitarius, Linn.
 3 ruricola, Mels.
 4 granarius, Linn.
 5 inquinatus, Herbst.
 6 vittatus, Say.
 7 foetidus, Fabr.

ATGENIUS stercorator, *Fabr.*
 EUPARIA gracilis, *Lec.*
 ODONTÆUS filicornis, *Say.*
 GEOTRUPES 1 splendidus, *Fabr.*
 2 Blackburnii, "
 3 excrementi, *Say.*
 4 egeriei, *German.*
 NICURGUS obscurus, *LeConte.*
 TROX 1 sordidus, "
 2 capillaris, *Say.*
 3 porcatus, "
 4 terrestris, "
 5 æqualis, "
 EURYTOMIA Inda, *Linn.*
 HOPLIA 1 trifasciata, *Say.*
 2 modesta, *Hald.*
 DICHELONICHA 1 elongata, *Schoen.*
 2 linearis, *Gyll.*
 3 albicollis, *Barn.*
 SERICA 1 vespertina, *Schoen.*
 2 sericea, *Ill.*
 3 iricolor, *Say.*
 4 trochiformis, *Burm.*
 DIPLLOTAXYS 1 tristis, *Kirby.*
 2 liberta, *Germ.*
 LACHNOSTERNA 1 cognata, *Barn.*
 2 ilicis, *Knock.*
 3 hirticula, "
 4 balia, *Say.*
 5 fusca, *Frohl.*
 POLYPHYLLA variolosa, *Hentz.*
 ANOMALA varians, *Fabr.*
 LIGYRUS relictus, *Say.*
 APHONUS frater, *Lec.*
 CREMASTOCHILUS, *Harrisii, Kirby.*
 OSMODERMA 1 scabra, *Paliss.*
 2 erimicola, *Knock.*
 TRICHIUS 1 affinis, *Gory.*
 2 piger, *Fabr.*
 CHALCOPHORA Virginica, *Drury.*
 DICERCA 1 divaricata, *Say.*
 2 tenebrosa, *Kirby.*
 3 tuberculata, *Say.*
 4 lacustris, *LeConte.*
 5 prolongata, "
 6 obscura, *Fabr.*
 EUPRISTOCERUS cogitans, *Web.*
 ANCYLOCHIRA rusticorum, *Lec.*
 PÆCILONOTA cyanipes, *Say.*
 ANTHRAXIA subænea, *Lec.*
 BUPRESTIS 1 fasciata, *Fabr.*
 2 sexplagiata, *Lec.*
 3 lineata, *Fabr.*
 4 maculiventris, *Say.*
 5 Nuttalli, *Kirby.*
 6 striata, *Fabr.*

MELANOPHILA 1 longipes, *Say.*
 2 fulvogutta, *Harris.*
 3 Drummondi, *Say.*
 CHRYSOBOTHRIS 1 chrysoda, *Ill.*
 2 quadreimpressa, *Lap.*
 3 dentipes, *German.*
 4 femorata, *Fabr.*
 5 soror, *Lec.*
 6 trinervia, *Kirby.*
 AGRILUS 1 gravis, *Lec.*
 2 otiosus, *Say.*
 3 politus, "
 4 biliniatus, *Weber.*
 5 viridifrons, *LeConte.*
 6 fulgens, "
 BRACHYS ovata, *Weber.*
 TROSCUS Chevrolati, *Bauv.*
 MICRORHAGUS imperfectus, *Lec.*
 FORNAX 1 cylindricollis, *Say.*
 2 Orchesides, *Newman.*
 EPIPHANIS cornutus, *Eschs.*
 ADELOCERA 1 pennata, *Fabr.*
 2 aurorata, *Say.*
 3 marmorata, *Fabr.*
 4 brevicornis, *Lec.*
 5 impressicollis, *Say.*
 ALAUS 1 oculatus, *Linn.*
 2 myops, *Fabr.*
 CARDIOPHORUS 1 cardisce, *Say.*
 2 amicus, *Mels.*
 3 convexus, *Lec.*
 CRYPTOHPNUS 1 abbreviatus, *LeConte.*
 2 grandicollis, "
 3 bicolor, *Esch.*
 4 pulchellus, *Linn.*
 5 pectoralis, *Say.*
 CEDOSTETHUS femoralis, *Lec.*
 ELATER 1 linteus, *Say.*
 2 semicintus, *Rand.*
 3 apicatus, *Say.*
 4 phœnicapterus, *LeConte.*
 5 luctuosus, "
 6 fuscatus, *Mels.*
 7 nigricans, *Lec.*
 8 pedalis, *Candeze.*
 9 lacustris, *Lec.*
 10 sanguinipennis, *Say.*
 11 rubricus, *Say.*
 12 obliquus, "
 13 protervus, *Lec.*
 14 nigricollis, *Germ.*
 15 pullus, *Cand.*
 16 miniipennis, *Lec.*
 LUDIUS abruptus, *Say.*
 DRASTERIUS dorsalis, *Say.*

(Continued from page 172, No. 9.)

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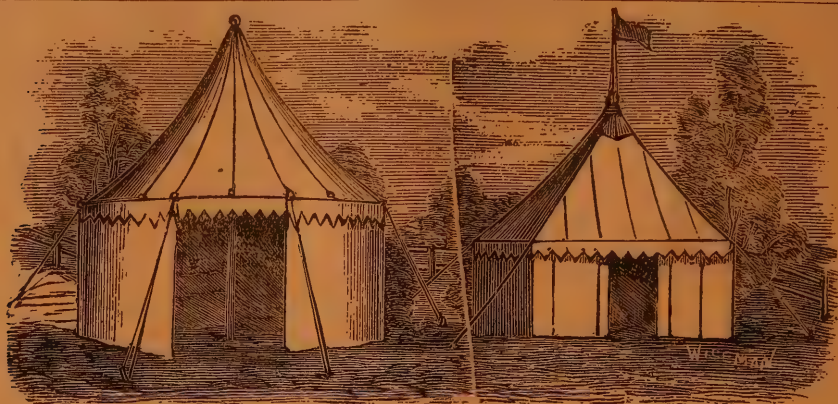
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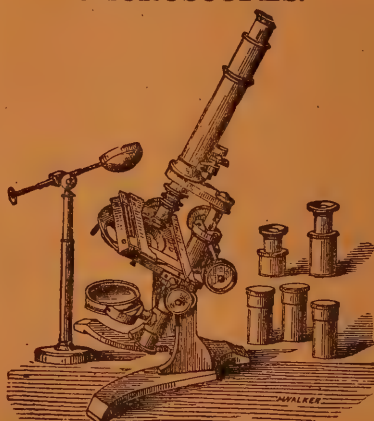
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VOL. II.

No. 11.

1882.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. II.

MONTREAL, NOVEMBER, 1882.

VOL. II.

WILLIAM COUPER, Editor.

FALL SHOOTING.

Canadian sportsmen have had a good fall for woodcock shooting, although poor for snipe, along the shores of the St. Lawrence, on account of high water—the latter kept in the woodlands and fields during daytime,—visiting the marshes at sunset. Duck shooting was poor until the end of October on account of mild weather, but some good bags of black duck were made on Lake St. Peter and the Upper Lakes. Fall ducks began to arrive in large numbers at the end of the month, and some good bags were made on the above Lakes. We have been informed that large flocks of geese were lately seen on Missisquoi Bay. The Lake of Two Mountains is a favorite resort for wild geese during November, and we will, doubtless, hear of some good sport in that locality. Messrs. Dunlop and Wintle shot at St. Barthelemi for four days during the first week of October, killing seventy duck, thirty-six snipe, fifteen jack-snipe and two loons, one of the latter being a young black-throated loon, a rare bird on the St. Lawrence. Among the above number of duck, thirty-five were black duck. This is the largest bag made at the latter-place with two guns, for the time, at that season. Virginian deer are said to be numerous in their old resorts, but the weather during October, was unfavourable for the preservation of venison, hunters are therefore holding back until they obtain a more steady lower temperature. We expect to see venison sold at a reasonable price before the season closes. Results of game bagged during the present season will be of value to sportsmen, and we invite those who have been successful in making good bags, to send us reports for publication.

THE DOMINION KENNEL CLUB.

A meeting of the Fish and Game Club for the Province of Quebec, was held in their club room, 366 Notre Dame street, Montreal, on the 27th ult. Mr. L. A. Boyer occupied the chair. Mr. B. H. G. Vicars, Secretary-treasurer of the Kennel Club, was present and explained the constitution and objects of the Club. He said that the Club was organized as a joint stock company with shares of \$10 each. Its main objects were both national and local, and aimed at encouraging sport of a legitimate character, preserving the game laws and amending them in some particulars. The Club intended also to publish a stud book at a nominal figure, to encourage bench shows and field trials, to hold an international show in conjunction with English sportsmen, and to arrange for exhibitions of sportsmen's materials for the purpose of encouraging the manufacture of these goods. A kennel would also be established at Ottawa for the importation and propagation of a superior class of dogs, and a lot of land had been secured on the Rideau Canal for this purpose. An attempt would also be made to remedy the defects in the game laws, and see that they were properly enforced. A number of those present expressed themselves as heartily willing to co-operate in furthering the objects of the Kennel Club. Mr. Vicars said he was perfectly willing to leave the matter in the hands of the Fish and Game Club, and suggested the appointment of a committee to consider the subject. On motion of the chairman, seconded by Mr. Matthews, the following committee was appointed to secure applications for stock, and to appoint a local board for Montreal:—Messrs. Geo. U. Ahern, J. B. A. Beique, J. A. U. Beaudry, F. J. Brady, Thos. Costen, H. A. Hogel, W. Mackenzie and John Nelson. Mr. Nelson was elected secretary of the committee.

We are pleased to notice the organization of the Dominion of Canada Kennel Club, who will doubtless carry out its object of encouraging sport of a legitimate character. The game laws of the Provinces of the Dominion are far from being intelligent or easily interpreted. Instance the late amended game laws for the

Province of Quebec. If the Club can only arrive at a proper way to remedy the present defects in the laws affecting our game, they will certainly benefit all honest sportsmen. Our animals, from which the hunter derives pleasure, should be properly defined; their historic names ought to appear in the law in order to conjoin a proper nomenclature of the game *fauna* throughout the Dominion. The animal called an elk in the west, is not the elk of the Province of Quebec; in fact the animals belong to two distinct genera, and as different in form as a buffalo is from a deer. We know that when a number of intelligent sportsmen meet to form laws of this nature, their decision will be generally correct; in fact, more so than the poor attempts so far made by any party in a Provincial Parliament. The proceedings of the Michigan Sportsman's Association have shown this to be the case, and we trust that the above combined Clubs will follow their example.—C.

The ruffed grouse commonly known as partridge, are not reported abundant near Montreal this fall. A person must now go to the Laurentian Mountains, otherwise the chance of obtaining the ruffed beauties on the low woodlands, will be poor indeed. The few birds noticed on the island, may have been bred on Mount Royal, where all birds, even hawks and owls are protected. To our knowledge, about a dozen brace have brought up their broods on the three conjoined mountains this past summer. On the morning of the 14th ult., a young male ruffed grouse flew against one of the windows of Mr. Walter Paul's grocery in this city; it was killed by the concussion. We conjecture where this bird came from, and, moreover, believe that all the birds bred there, when strong enough, leave for other localities where they winter without being so much molested.

Thousands of black squirrels have been killed near Hornellsville, N.Y., during the

month of October. The grey variety were abundant throughout the Eastern Townships this fall. The species (black and grey being the same) migrate, and they, doubtless, took advantage of the late beautiful October to reach new localities. The specimens which we obtained from the townships, were fat and excellent eating.

A FINE specimen of the Snow Owl was shot near the Grand Ligne Depot on the 20th ult., and a Pine Grosbeak was taken near Montreal on the same date. The arrival of these birds from the far north indicates the approach of cold weather.

THE attention of Entomologists is called to the fact that the collection of THYSANOPTERA (Thrips) of this country have been neglected. Mr. Theo. Pergande, of Washington, writes to say that "there seems to be nobody among the entomologists in this country who takes an interest in this group of insects." Mr. Pergande is now studying THYSANOPTERA, and he will be pleased to receive specimens from all parts of America. His address is 614 Seventh street, S.W., Washington, D.C., U.S.

REVIEW.

"The Ottawa Field Naturalists' Club" Transactions No. 3, for 1881-2, are full of interest to the general student of Canadian Natural History. The success of this institution is doubtless due to Mr. James Fletcher, its worthy president, who, in his genial way, manages to keep the Ottawa naturalists constantly at work. We have reports from the Leaders of the different branches of Natural History. In a list of birds said to have been shot in the vicinity of Ottawa, I notice *Harporhynchus cinereus*, Bd. (The St. Lucas Thrasher), which may be a var. of the common Brown Thrush, (*H. rufus*); *Poliophtila cœrulea*, Selater, (the Blue-gray Gnatcatcher); *Parus rufescens*, Towns. (the Chesnut-backed Chickadee); *Coccyzus Americanus*, Baird (the

Yellow-billed Cuckoo); *Glaucidium passerinum*, var. *Californicum*, Ridgway (Pigmy Owl); according to Ridgway's List, there are only two species of this genus in North America. The *G. gnoma*, Wagl., is a California bird, and its occurrence in the vicinity of Ottawa is doubtful. *Nauclerus furcatus*, Vigors (the Swallow-tailed Kite). This genus is now changed to *Elanoides*, and Ridgway gives it in his List as *forficatus*. Vigors should not be quoted as the authority, as it is Linnaeus' type of *Falco furcatus*; and *Poranza Jamaicensis*, Cassin (the Little Black Rail)? With the exception of the Thrush var., the Gnatcatcher and the Yellow-billed Cuckoo, this is the first record of the occurrence of the above birds in this portion of Canada, and it is strange that no determinate remarks appear in the report regarding them. Are these birds preserved, and where are they to be seen? A descriptive paper by J. B. Tyrrell, B. A., on SARCOPTIDÆ, or parasites found on Canadian Birds, is accompanied with illustrations. Dr. Cowdry, of Toronto, is at present at work on this class of ectoparasitic forms which he mounts for the microscope. 'Notes on the Ottawa Unionidæ,' by F. R. Latchford, is a good contribution to our conchological literature.—*Unio borealis*, A. F. Gray, is illustrated as a new species from the Ottawa River. There are other papers of equal value and interest. In conclusion, the work is in a high degree creditable to the Club, which should be encouraged for their industry and intelligence.—C.

Correspondence.

DEAR SIR,—I send you enclosed three specimens of a peculiar hammer-headed fly, which I see here every year about this time on the side of a house. These pretty little flies have the curious habit of collecting into a dense mass as evening draws on. I have noticed them, night after night, for the last three weeks, in the angle made by two brick walls beneath the porch of a doorway. During the daytime they are very bright and active,

and front round immediately a hand is raised towards them. The easiest time to catch them is at night when they are at rest. I have no copy of Say, but I think I remember seeing it figured towards the end of one of the volumes. I shall be obliged if you will send me the name, and if it is a rarity, I shall be pleased to send you a good series of specimens.

I am, dear sir, your truly,

J. FLETCHER.

Ottawa, Oct. 17th, 1882.

NOTE.—The fly belongs to the Dipterous genus *Sphyracephala*. The North American species are rare. It may be Say's *brevicornis*, but I have no immediate opportunity to compare it with the description. If it is not the latter, you may have a new species. I trust you secured a number of them. The genus is remarkable for its stalked eyes which are placed on stems going out from the sides of the head. Some species are found fossil in Prussian amber.—C.

LIST OF THE BIRDS OF WESTERN ONTARIO.

By J. A. MORDEN and W. E. SAUNDERS.

The following list has been prepared chiefly from observations made at and near Hyde Park, London, Mitchell's Bay, Point Pelee: and Lucknow.

Hyde Park and London, in Middlesex county, are in the centre of a large and fertile agricultural district abounding in woodland birds. Mitchell's Bay at the St. Clair Flats and Point Pelee are also rich in woodland birds, and besides are noted for their water birds: while Lucknow in Bruce county is farther north, and therefore a greater number of the northern forms breed there, while some of the southern are wanting entirely.

To Mr. E. W. Sandys, Chatham, Ont., we are deeply indebted for his valuable assistance, more especially among the water birds, but also for the only records of a few land species.

It is hoped that the publication of this list, will draw from others in Ontario, criticisms and additions to our fauna, together with more exact knowledge about many of our rarer species.

The nomenclature adopted is that given by Ridgway, in the Smithsonian Catalogue of 1881.

1. *Hylocichla ustulata*: Wood Thrush. Fre-

quent in Middlesex in heavily timbered woods. In Kent, breeds abundantly.

2. *Hylocichla fuscescens*; Wilson's Thrush. Breeds abundantly.

3. *Hylocichla ustulata Swainsoni*, Olive-backed Thrush. Very rare in migrations near London; only one shot; more are found in Kent where it may breed; several seen May 19th, 1882.

4. *Hylocichla unalascae Pallasi*; Hermit Thrush. Regular migrant. Found common in full song in a large swamp, June 22nd, 1882. No nests found, although it was undoubtedly breeding. None observed in summer in any other locality.

5. *Merula migratoria*; Robin. Breeds abundantly. In very mild winters a few remain.

6. *Mimus polyglottus*; Mockingbird. One taken in June, 1860 at Chatham. (E. W. Sandys).

7. *Galeoscoptes Carolinensis*; Catbird. Breeds abundantly. Five eggs not an uncommon set.

8. *Harporhynchus rufus*; Thrasher. Much less abundant than the last. Seems to be very locally distributed, frequenting low scrub and hazel thickets; breeding in brush heaps, bushes and on the ground impartially.

9. *Sialia sialis*; Bluebird. Breeds abundantly. Earliest eggs, 11th April, 1877; largest set, seven; four sets of white eggs taken.

10. *Poliophtila cerulea*; Blue-gray Gnatcatcher. Generally common, and well distributed through high woods, but some seasons rare.

11. *Regulus calendula*; Ruby-crowned Wren. Common. Arrives from the north early in October, and in mild winters remains, leaving about May 1st.

12. *Regulus satrapa*; Golden-crowned Wren. More common than the last, with same habits. Male in full song shot in a swamp near Lucknow, Bruce County, May 21st.

13. *Parus atricapillus*; Chickadee. Very common in spring and fall; less so in winter, and a few remain through the summer and breed.

14. *Sitta Carolinensis*; White-bellied Nuthatch. Like the last, only more abundant in summer, and less so in winter. Never makes holes for itself for breeding purposes.

15. *Sitta Canadensis*; Red-bellied Nuthatch. Rare; our few have been taken early in May.

16. *Certhia familiaris rufa*; Creeper. Common, except in summer when a few breed. Nests are placed behind a large flake of bark on the side of a tree.

17. *Troglodytes ædon*; House Wren. Common. Breeds. Snake skins are a common ingredient of country nests.

18. *Anorthura troglodytes, hyemalis*; Winter Wren. Common in spring and fall. A few breed in wooded swamps.

19. *Telmatodytes palustris*; Long-billed Marsh Wren. Breeds very abundantly in the St. Clair

marshes, but in smaller inland marshes is very rare.

20. *Cistothorus Stellaris*; Short-billed Marsh Wren. Rather common in the St. Clair marshes; a set of five eggs, the size and shape of those of this species, white and sparingly dotted with the color of those of the other species, was taken at the St. Clair marshes June, 1881, and probably belong to this species.

21. *Anthus ludovicianus*; Titlark. Abundant at times in fall and spring; seen as late as May 20th, and early in spring, flocks of a hundred have been noted.

22. *Monitilla varia*; Black and white Creeper. Common in the deeper woods. Breeds.

23. *Helminthophaga chrysoptera*; Golden-winged Warbler. Regularly distributed and rather common. Breeds. Marked very rare by McIlwraith.

24. *Helminthophaga ruficapilla*; Nashville Warbler. Breeds commonly in swamps mostly evergreen, where there is thick growth of moss on the ground, among which the nest is placed.

25. *Helminthophaga peregrina*; Tennessee Warbler. Common at times during spring migration.

26. *Parula Americana*; Blue yellow-backed Warbler. Rather common. Breeds.

27. *Perissoglossa tigrina*; Cape May Warbler. Only one taken; Mitchell's Bay, May 16th 1882.

28. *Dendroica aestiva*; Yellow Warbler. Breeds abundantly.

29. *Dendroica caerulescens*; Black-throated blue Warbler. Not uncommon during migrations. May breed as a male in full dress was taken June 22nd, 1882.

30. *Dendroica coronata*; Yellow-rump Warbler. Common in spring migrations, more abundant in fall.

31. *Dendroica maculosa*; Black and yellow Warbler. Rare migrant. May breed as a male was taken June 8th, 1882. More common north and east of these counties.

32. *Dendroica cerulea*; Blue Warbler. Common. Breeds. Generally stays high in the trees.

33. *Dendroica Pennsylvanica*; Chestnut-sided Warbler. Common. Breeds.

34. *Dendroica castanea*; Bay-breasted Warbler. Very rare during the migrations. Four specimens only taken.

35. *Dendroica striata*; Black-poll Warbler. Common some seasons during migrations; rare at others.

36. *Dendroica Blackburniæ*; Blackburnian Warbler. Somewhat common. Breeds. Frequents the high trees in swampy districts. Often feeds on the ground at Mitchell's Bay.

37. *Dendroica virens*; Black-throated Green

Warbler. Rather common during migrations and may breed as a male in full song was shot June 12th, 1882.

38. *Dendroica pinus*; Pine-creeping Warbler. Very rare. Two specimens taken.

39. *Dendroica palmerum hypochrysea*; Yellow Red-poll Warbler. Rather rare during migrations; several specimens taken.

40. *Siurus auricapillus*; Golden-crowned Thrush. Common. Breeds.

41. *Siurus nevius*; Water Thrush. Less common than the last but breeds regularly.

42. *Geothlypis Philadelphia*; Mourning Warbler. Not uncommon in low timbered bush and swampy thickets where it breeds. Marked very rare by McIlwraith.*

43. *Geothlypis trichas*; Maryland Yellowthroat. Common. Breeds.

44. *Myiodiotes mitratus*; Hooded Warbler. Very rare. Only one specimen taken.

45. *Myiodiotes Canadensis*; Canada Flycatcher. Rather common. Breeds regularly.

46. *Setophaga ruticilla*; Redstart. Common. This species and *D. aestiva* are our most common Warblers; this in the wilder and more wooded portions, while the other comes into the towns and inhabits scrub growth in the country.

47. *Vireosylva olivacea*; Red-eyed Vireo. Very common. This species and *V. gilva* are our most common Vireos.

48. *Vireosylva gilva*; Warbling Vireo. Very common. Breeds.

49. *Lanius flavifrons*; Yellow-throated Vireo. Common. Breeds.

50. *Lanius solitarius*; Blue-headed Vireo. Very rare; only one taken September 15th, 1877.

51. *Lanius borealis*; Great Northern Shrike. Rather common in spring and fall. Remains in mild winters but very few breed.

52. *Lanius ludovicianus excubitorides*; White-rumped Shrike. Rather common. Breeds.

53. *Ampelis garrulus*; Bohemian Waxwing. Appears in winter; sometimes in large flocks.

54. *Ampelis cedrorum*; Cherry Bird. Common. Breeds. Remains through mild winters.

55. *Progne subis*; Purple Martin. Common in towns, seldom seen in the country.

56. *Petrochelidon lunifrons*; House Swallows. Breeds abundantly.

57. *Hirundo erythrogastra*; Barn Swallow. Even more abundant than the last.

58. *Tachycineta bicolor*; White-bellied Swallow. Breeds commonly both in town and country.

59. *Cotyle riparia*; Bank Swallow. Breeds abundantly.

60. *Stelgidopteryx serripennis*; Rough-winged Swallow. Breeds in the same localities as the last, but is much less common and generally alone or in small communities by itself. Not given by McIlwraith; probably overlooked.

61. *Pyranga rubra*; Scarlet Tanager. Common. Breeds. Frequenting mostly pine and other deep woods. Near the shores of Lake St. Clair, it feeds much on the ground.

62. *Hesperiphona vespertina*; Evening Grosbeak. At Winnipeg, Man., Prof. Macoun was shown specimens of this bird shot near London. McIlwraith gives several shot at Woodstock in 1863.

63. *Pinicola enucleator*; Pine Grosbeak. Occurs quite regularly in winter.

64. *Carpodacus purpureus*; Purple Finch. Common in fall, winter and spring. Breeds sparingly.

65. *Loxia curvirostra Americana*; Red Crossbill. Occasionally common in winter. One shot July 5th, 1882.

66. *Loxia leucoptera*; White-winged Crossbill. Occurs in winter but neither so abundantly nor as often as the preceding.

67. *Agiothus linaria*; Redpoll. Common in winter, arriving in October and leaving in April. A nest of this species with two addled eggs was found May 29th, 1879, and identified by comparison with European eggs.

68. *Astragalinus tristis*; Yellow Bird. Very common, remaining with us in mild winters. Breeds in the third week in July.

69. *Chrysomitris pinus*; Pine Finch. Rather common, arriving in October and leaving in April.

70. *Plectrophanes nivalis*; Snowbird. Common in large flocks in winter; in spring they sometimes stay till late in April and are then in song.

71. *Centrophanes lapponicus*; Lapland Longspur. First found this spring (1882), at Mitchell's Bay, Kent County, in flocks of from 25 to 200. According to the inhabitants these birds breed there but none were observed after May 18th.

72. *Passerculus Sandwichensis savanna*; Savannah Sparrow. Regular but not abundant breeder.

73. *Poocetes gramineus*; Grass Finch. Very common. Breeds.

74. *Coturniculus passerinus*; Yellow-winged Sparrow. Very rare. One specimen taken.

75. *Chondestes grammacus*; Lark Finch. Breeds but is rare. Has been seen common along the roadsides in the southern and western counties.

76. *Zonotrichia leucophrys*; White-crowned Sparrow. Common for a few days in spring, not yet observed in fall.

77. *Zonotrichia albicollis*; White-throated Spar-

* Mr. McIlwraith, of Hamilton, O., published his list of Birds in the "Proceedings of the Essex Institute, Salem, Mass., 1866."

row. Common during migrations. May breed as one was heard June 22nd, 1882.

78. *Spizella montana*; Tree Sparrow. Common during migrations. Remains in mild winters,

79. *Spizella domestica*; Chipping Sparrow. Abundant everywhere.

80. *Spizella pusilla*; Field Sparrow. Rather local in its distribution, but common in its favorite localities. Breeds.

81. *Junco hgemalis*; Black Snowbird. Breeds Breeds, but not commonly. Common in migrations and in mild winters a few remain.

82. *Passer domesticus*; English Sparrow. This little pest was introduced in London, Ont., about 1876, and is now abundant all through the city, and is found throughout the country for some distance; while almost all the towns and villages of Western Ontario have their quota.

83. *Melospiza fasciata*; Song Sparrow. Breeds abundantly and in mild winters a few remain.

84. *Melospiza palustris*; Swamp Sparrow. Moderately common in swamps consisting of low trees and bushes. At the St. Clair Flats it is abundant.

85. *Cardinalus Virginianus*; Cardinal Grosbeak. Two taken at Chatham, May, 1849. (E. W. Sandys).

86. *Passerella iliaca*; Fox-colored Sparrow. Rare during migrations. Four or five specimens taken.

87. *Pipilo erythrophthalmus*; Chewink. Common. Breeds.

88. *Zamelodia ludoviciana*; Rose-breasted Grosbeak. Rather common. Breeds.

89. *Passerina cyanea*; Indigo Bird. Common. Breeds.

90. *Dolichonyx oryzivorus*; Bobolink. Breeds abundantly but always makes a well concealed nest that is rather difficult to find.

91. *Molothrus ater*; Cowbird. Very common. Have found eggs in nests of Plover, Tawny Thrush, Bobolink, Meadow Lark, Yellow Warbler, Chestnut-sided Warbler, Golden-crowned Thrush, Golden-winged Warbler, Cherry Bird, Black Snowbird, Chipping Sparrow, Field Sparrow, Chewink, Song Sparrow, Red-eyed Vireo, Warbling Vireo, Indigo Bird.

92. *Agelaius phoeniceus*; Red-wing. Breeds abundantly in marshy places and near bodies of water; the majority of nests found being in bulrushes but often in bushes, and once 8 feet from the ground in a thorn.

93. *Sturnella magna*; Meadow Lark. Common. Breeds. In fall collects in flocks and remains till about October 26.

94. *Icterus spurius*; Orchard Oriole. McIlwraith says, "I am only aware of one specimen being found in Canada." At present this is a common bird in Kent and Essex and is becoming

more so in Middlesex, having been observed a number of times this year.

95. *Icterus galbula*; Baltimore Oriole. Common. Breeds.

96. *Scolecophagus ferrugineus*; Rusty Blackbird. Rather common in the migrations.

97. *Quiscalus purpureus*; Crow Blackbird. Common. Breeds. Often in communities in an old orchard.

98. *Corvus corax canivorus*; Raven. Occurs regularly at St. Clair Flats but is rare inland, except in the most unsettled districts.

99. *Corvus frugivorus*; Crow. Common. Breeds. Last year a flock of about five hundred was observed in June, generally much later.

100. *Cyanocitta cristata*; Blue Jay. Common. Resident throughout the year.

(Canada Jay not observed.)

101. *Eremophila alpestris*; Shore Lark. Very common in migrations, less so in summer when quite a number breed, and a still smaller number remain through the winter in small companies. Raises two or three broods. Young birds have been seen following the parents April 25th.

102. *Tyrannus Carolinensis*; Kingbird. Common. Breeds.

103. *Myarchus crinitus*; Great-crested Flycatcher. Less common than the last. Has a great fondness for snake skins in the nest.

104. *Sayornis fuscus*; Pewee. Common. Breeds. Its favorite resort for resting is on beams of old bridges; one nest, with repairs, being used for years. Two broods are generally raised.

105. *Contopus borealis*; Olive-sided Fly-catcher. Not uncommon in the northern counties; not observed in the southern.

106. *Contopus virens*; Wood Pewee. Common. Breeds.

107. *Empidonax Acadicus*; Acadian Fly-catcher. Very rare, only one specimen taken; Hyde Park.

108. *Empidonax pusillus Trailli*; Traill's Flycatcher. Rare and usually wary.

109. *Empidonax minimus*; Least Fly-catcher. Generally common; quite scarce this year. Equally distributed through town and country.

110. *Trochilus colubris*; Ruby-throat. Common. Arrives early in May.

111. *Chætura pelasgia*; Chimney Swallow. Common. Breeds. In the fourth week in May, thousands of these birds were observed circling around some chimneys on the Parliament buildings at Ottawa. In the woods they nest in hollow stubs.

112. *Caprimulgus vociferus*; Whip-poor-will. Rather common but local in distribution, preferring rough pieces of country.

113. *Chordeiles popetue*; Night hawk. Very common. Breeds.

114. *Picus villosus*; Hairy Woodpecker. Breeds

regularly but is not abundant. Remains all winter.

115. *Picus pubescens*; Downy Woodpecker. A common resident.

116. *Picoides Arcticus*; Black-backed three-toed Woodpecker. Very rare. One taken in London in the fall of 1875.

117. *Picoides hirsutus*; Banded Three-toed Woodpecker. One shot about 30 miles north of London in winter of 1881-82.

118. *Sphyrapicus varius*; Yellow-bellied Woodpecker. Common in migrations and quite a number remain to breed.

119. *Hylotomus pileatus*; Pileated Woodpecker. Very rare. Has retired to less thickly settled districts.

120. *Centurus Carolinus*; Red-bellied Woodpecker. Rather common in migrations and a few breed. McIlwraith says, "On the third of May (1865) I shot three specimens of this bird near Chatham. Farther east it is quite rare."

121. *Melanerpes erythrocephalus*; Red-headed Woodpecker. The most abundant of this family and no favorite with the farmer, as it makes large and increasing depredations on the fruit crop. In mild winters a few remain.

122. *Colaptes auratus*; Highholder. Only less abundant than the last. Migrates earlier and returns later.

123. *Ceryle alcyon*; Kingfisher. Common along the rivers and streams. Breeds in holes five to eight feet long and makes no nest.

124. *Coccyzus Americanus*; Yellow-billed Cuckoo. Rather common. McIlwraith says, "Have only seen one specimen of this bird in Canada."

125. *Coccyzus erythrophthalmus*; Black-billed Cuckoo. Common. Breeds. There is a marked scarcity of this species this year. Have often blown six eggs from a nest.

(To be continued.)

COLEOPTERA FOUND IN THE PROVINCE OF QUEBEC.

BY WILLIAM COUPER.

MONOCREPIDIUS auritus, *Herbst.*

AGRIOTES 1 *mancus*, *Say.*

2 *fuscus*, *LeConte.*

3 *limosus*, "

4 *pubescens*, *Mels.*

5 *stabilis*, *Lec.*

DOLOPIUS pauper, *Lec.*

BETARMON bigeminatus, *Rand.*

MELANOTUS 1 *fissilis*, *Say.*

2 *communis*, *Gyll.*

3 *decumanus*, *Er.*

MELANOTUS 4 *sagittarius*, *Lec.*

5 *depressus*, *Mels.*

6 *castenipes*, *Payk.*

7 *Leonardi*, *Lec.*

LIMONIUS 1 *griseus*, *Beauv.*

2 *phebejus*, *Lec.*

3 *ectypus*, *Say.*

4 *basilaris*, *Say.*

5 *agonus*, *Say.*

CAMPYLUS denticornis, *Kirby.*

ATHOUS 1 *affinis*, *Couper.*

2 *rufifrons*, *Lec.*

3 *Brightwelli*, *Say.*

4 *bipunctatus*, *Prov.*

5 *acanthus*, *Say.*

CESTODES tenuicollis, *Rand.*

CORYMBITES 1 *trinudatus*, *Rand.*

2 *hieroglyphicus*, *Say.*

3 *splendens*, *Ziegl.*

4 *aeripennis*, *Kirby.*

5 *pulcher*, *Lec.*

6 *aeranus*, *Rand.*

7 *cylindricornis*, *Herbst.*

8 *vernalis*, *Hentz.*

9 *Kendalli*, *Germ.*

10 *tarsalis*, *Mels.*

11 *falsificus*, *Lec.*

12 *athoides*, "

13 *pyrrhos*, "

14 *appressifrons*, *Rand.*

15 *tessellatus*, *Linn.*

16 *vulneratus*, *Lec.*

17 *spinosus*, "

18 *sulscollis*, *Say.*

19 *medianus*, *Germ.*

ASAPHES 1 *memnonius*, *Herbst.*

2 *decoloratus*, *Say.*

3 *melanophthalmus*, *Mels.*

4 *aereus*, *Mels.*

5 *brevicollis*, *Lec.*

CEBRIO bicolor, *Fabr.*

PITYOBUIS 1 *Billingsii*, *Bland.*

2 *anguinus*, *Lec.*

EANUS maculipennis, "

SERICOSOMUS 1 *fuscicornis*, *Lec.*

2 *incongruus*, "

OXYGONUS obesus, *Lec.*

DICTYOPTERA perfaceta, *Say.*

EURYPOGON niger, *Mels.*

CYPHON 1 *pallipes*, *Lec.*

2 *fusciceps*, "

3 *nebulosus*, "

4 *ruficollis*, *Say.*

SCIPTES tibialis.

CALOPTERON 1 *reticulatum*, *Fabr.*

2 *apicalis*, *Lec.*

- CAENIA** 1 dimidiata, *Fabr.*
 2 basilaris, *Newm.*
EROS 1 coccinatus, *Say.*
 2 canaliculatus, *Say.*
 3 modestus, "
LUCIDOTA atra, *Fabr.*
PHOTINUS 1 corruscus, *Linn.*
 2 lacustris, *Lec.*
 3 nigricans, *Say.*
 4 angulatus, "
 5 ardens, *Lec.*
 6 consanguineus, *Lec.*
 7 pyralis, *Linn.*
 8 scintillans, *Say.*
PHOTURIS Pennsylvanica, *DeGeer.*
CHAULIOGNATHUS 1 Pennsylvanicus, *DeGeer.*
 2 marginatus, *Fabr.*
PODABRUS 1 flavicollis, *Lec.*
 2 diadema, *Fabr.*
 3 porticollis, *Lec.*
 4 simplex, *Couper.*
 5 punctulatus, *Lec.*
 6 laevicollis, *Kirby.*
TELEPHORUS 1 rotundicollis, *Say.*
 2 Carolinus, *Fabr.*
 3 tuberculatus, *Lec.*
 4 excavatus, "
 5 biliniatus, *Say.*
 6 rectus, *Mels.*
 7 fraxini, *Say.*
 8 marginellus, *Lec.*
 9 armiger, *Couper.*
 10 scitulus, *Say.*
SILIS 1 luticollis, *Germ.*
 2 percomis, *Say.*
COLLOPS 1 quadrimaculatus, *Fabr.*
 2 vittatus, *Say.*
 3 tricolor, "
CYMATODERA bicolor "
CLERUS Nuttalli, *Kirby.*
THANASIMUS 1 nigripes, *Say.*
 2 dubius, *Fabr.*
 3 nubilus, *Klug.*
 4 thoracicus, *Oliv.*
 5 sanguineus, *Say.*
HYDROCERA 1 humeralis, "
 2 curtippennis, *Newm.*
CORYNETES violaceus, *Linn.*
CUPES capitata, *Fabr.*
PTINUS, 1 fur, *Linn.*
 2 brunneus, *Dufsch.*
ANOBIUM notatum, *Say.*
PTILINUS 1 ruficornis, *Say.*
 2 thoracicus, *Rand.*
DINODERUS substriatus, *Payk.*
SPHINDUS Americanus, *Lec.*
EUCRADA humeralis, *Mels.*
TRYPOPITYS sericeus, *Say.*
SITRODREPA panicea, *Linn.*
HADROBREGMUS 1 foveatus, *Kirby.*
 2 carinatus, *Say.*
 3 errans, *Mels.*
TRILOBIMUM ferruginosum, *Fabr.*
CRYPTICUS absoletus, *Say.*
HYPOPHLÆUS parallelus, *Mels.*
PHELLOPSIS obcordata, *Lec.*
BLAPSTINUS 1 metallicus, *Fabr.*
 2 interruptus, *Say.*
XYLOPINUS saperdioides, *Oliv.*
UPIS ceramboides, *Linn.*
NYCTOBATES Pennsylvanica, *DeGeer.*
IPTHIMUS opacus, *Lec.*
TENEBRIO 1 obscurus, *Fabr.*
 2 molitor, *Linn.*
 3 castaneus, *Knock.*
 4 tenebrionides, *Beauv.*
PARATENETUS punctatus, *Sol.*
ULOMA 1 impressa, *Mels.*
 2 punctulata, *Lec.*
BOLITOTHERUS cornutus, *Fabr.*
DIAPERIS hydni, *Fabr.*
HOPLOCEPHA bicornis, *Oliv.*
PLATYDEMA 1 ruficornis, *Sturm.*
 2 ellipticum, *Fabr.*
 3 Americanum, *Lap.*
 4 laevipes, *Hald.*
SCAPHIDEMA æneolum, *Lec.*
HYMENORUS niger, *Mels.*
ISOMIRA quadristriata, *Couper.*
CISTELA sericea, *Say.*
MYCETOCHARUS, 1 bicolor, *Couper.*
 2 fraterna, *Say.*
 3 foveata, *Lec.*
ALLECULA punctulata, *Mels.*
CAPNOCHROA fuliginosa, *Lec.*
ANDROCHIRUS luteipes, *Lec.*
ARTHROMACRA ænea, *Say.*
TETRATOMA truncorum, *Lec.*
PENTHE 1 obliquata, *Fabr.*
 2 pimelia, "
SYNCHROA punctata, *Newm.*
EUTROPHUS 1 tomentosus, *Say.*
 2 bicolor, *Fabr.*
ORCHESIA gracilis, *Mels.*
SERROPALPUS striatus, *Hellen.*
HYPULUS lituratus, *Lec.*
XYLITA lævigata, *Hellen.*
ZILORA unda, *Prov.*
MELANDRYA striata, *Say.*
EMMESA 1 labiata, "
 2 connectus, *Newm.*

(Continued from page 180, No. 10.)

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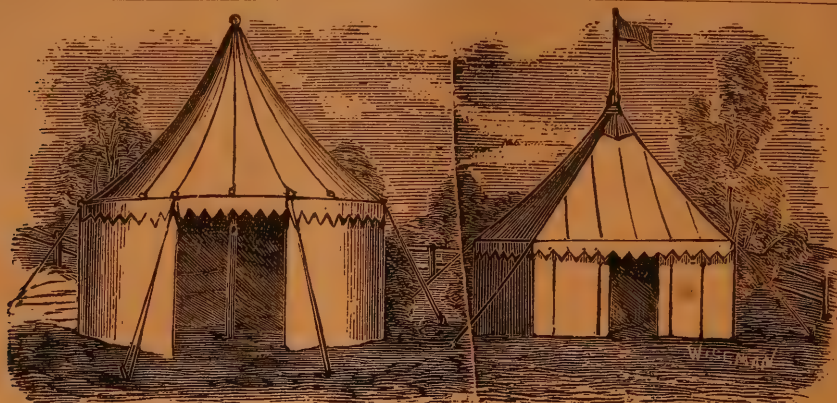
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THE

CANADIAN SPORTS AND NATURALIST

AND

NATURALIST

A
MONTHLY
JOURNAL



VOL. II.
No. 12.
1882.

W. J. L. O'NEILL

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 12.

MONTREAL, DECEMBER, 1882.

VOL. II.

WILLIAM COUPER, Editor.

EDITORIAL NOTES.

A beautiful young specimen of the rare Least Auk (*Ciceronia pusilla*), was sent to Montreal to be stuffed. It was mailed a short time ago from Newcastle, N. B., by R. Mackenzie, Esq.

A fine young specimen of the Solan Goose or Gannet (*Sula bassana*) was lately shot by Mr. A. W. Barnes of this city, in the St. Lawrence, near Contrecoeur.

Last August, Baron de la Grange, of Paris, accompanied by Mr. N. A. Comeau of Godtout P.Q., went on a hunting tour through Wyoming and Montana. They had good sport, having killed two grizzlies; thirty-eight buffalo; fifteen wapiti; seventeen black-tailed deer; eleven antelope; five mountain sheep and some smaller quadrupeds. The Baron has several wapiti and other deer heads and skins as trophies.

During this season, Mr. L. A. Boyer, of Montreal, shot young Eider duck (*Somateria mollissima*), near Summerstown, Ont. It is unusual to find these birds so far from the sea. He has had a pair preserved and stuffed. Those birds may possibly be the young of *S. Dresseri*, Sharpe, Ann. Mag. N. H., 1871, figs. 1 and 2. The true Eider has only lately been detected in America, it being the form found by Mr. Kumlien breeding abundantly on the west side of Cumberland Gulf.

AN ENGLISH WOODCOCK SHOT AT CHAMBLY, QUEBEC.

A specimen of the English Woodcock (*Scolopax rusticula*), was shot on the 11th ultimo, by a French Canadian at Chambly, P. Q. Colour, size and weight of the bird confused the man, who carried the stranger to Mr. Brock Willett, who knew what it was, but he became incredulous—as we did when it was brought to us in the flesh—that a fat twelve ounce European Woodcock could be obtained in Canada, in November; but its freshness settled the doubt, and the bird is now stuffed.

We believe this is the first specimen shot so far inland in Canada. The other record of a specimen occurring far north on this continent is one taken in Newfoundland in 1866. Dr. Coues in "The American Naturalist," X., No. 6, June, 1876, p. 372, records one specimen as having been shot in Virginia, U. S.

DUCK FEEDING GROUNDS.

"A deputation from the Fish and Game Protection Club, consisting of Messrs. L. A. Boyer, Rintoul, Selkirk Cross, and W. Parker, waited on the Provincial Premier while in Montreal last month, to request a grant of \$250 for the sowing of wild rice in the different duck feeding grounds throughout the province. The deputation was very politely received and their request granted by the Hon. Premier. The grant is to be added to the sum of \$100, which the Club guarantees to raise from amongst its members. It may be mentioned that this can hardly be called a tax upon the province, as the law passed last session compelling strangers to take out sporting licenses has already resulted in the netting of a considerable sum to the province, and which will annually increase, as the sporting grounds are protected and improved."

NOTE.—If wild rice turns out productive in this latitude, several of our lakes and ponds will doubtless have an annual tenfold increase of wildfowl, and the sportsmen of the Province of Quebec will not hereafter complain of having to leave their old hunting grounds in search of game elsewhere. This aquatic plant was sent broadcast into the Canadian waters of Lake Champlain about twelve months ago, and we have been informed that it was coming up last spring. The Fish and Game Club should select good natural localities for the propagation and extension of the seed.

THE WINCHESTER CLUB.

A club has just been organized for the purchase of the hunting grounds in the county of St. Maurice. Besides acquiring some of the bush land about St. Elie, on which a sports-

man's lodge will be built, the club proposes to secure fishing and shooting rights over other land in the county, and will engage in the propagation of fish and preservation of game. The proposed site of operations has been one of the richest hunting and fishing grounds in the province, and with two years protection, the club hope to be able to re-stock the rivers and forests of the county. Salmon will be introduced into some of the rivers. Messrs. W. Skillings, of Bethel, J. P. Spaulding, of Boston, Romeo H. Stephens, of St. Lambert, Sheldon Stephens, of Montreal, and W. H. Parker, St. Elie, have been elected a provisional board of directors. The club will seek incorporation at the next session of the Provincial Legislature, under the name of the Winchester Club, with a capital of \$6,750 divided into thirty shares.

NOTE.—There are good names connected with the above Club, and we will use our influence to make it a success.

ANSWER TO CORRESPONDENT.

John H. Morden, Hyde Park, Ont.—Write to S. E. Cassino, 299 Washington St., Boston, U.S. He is the publisher of the "Naturalist's Directory," in which you will find the addresses of the most prominent Taxidermists on this continent. You must send two dollars for the work.

Correspondence.

DEAR SIR,—On page 170 of your Journal you say in answer to a correspondent, that "three other species, viz:—the Scarlet or "Swamp Maple (*Acer saccharinum*); the "Sugar or Rock Maple (*A. nigrum*) are used "as ornamental trees in the neighbourhood of "Montreal." Permit me to point out that you only mention two species in addition to *A. dasycarpum*, and that the Scarlet or Swamp Maple is *Acer rubrum*, the Sugar or Rock Maple is *A. saccharinum*, and that according to Gray, *A. nigrum* is only a variety of *A. saccharinum*.

Yours truly,

H. H. LYMAN.

NOTE.—Our correspondent is correct regarding the above maples. A mistake occurred in the specific names; the Soft or Swamp Maple should be *rubrum*, and the Sugar Maple *saccharinum*; the *nigrum* referred to in our article is a variety of the latter.

MY BARK CANOE.

Fresh from the dusky Indian's hand,
I launched thee on the pebbly strand
Ten years ago; tight, trim and new,
My buoyant, light-built bark canoe,
No white man's hand could fashion thee,
Thy perfect lines curved gracefully;
"A thing of beauty," through and through,
Wert thou my matchless bark canoe!

Oft o'er the Ottawa's rippling swell
I journey'd in thee safe and well;
Steady wert thou as any rock,
Resisting the explosive shock
Of "*Faugh-a-Ballagh's*" roaring ring,
At swift, black duck upon the wing—
From thee the "chilled" went always true,
My staunch, my beautiful canoe!

Upon thy ribs red stains I see,
Each is a record plain to me
Of scenes gone by—each crimson spot,
A witness of some long range shot,
There lay the quarries side by side,
Arrested in their plumaged pride;
Delightful to a sportsman's view,
My beautiful old bark canoe!

Some killed at eighty yards and more,
Have stained thy sheeting with their gore;
The mallard in his headlong flight
Hurled quivering from his airy height,
The gorgeous wood-duck, and the teal—
The strong merganser's wings of steel;
The golden-eye, whose whistling wing
Made Nova Zembla's inlets ring,
Each shattered fell, pierced through and through,
To freight my beautiful canoe.

The stately pintail there has lain,
The black duck and the red-head slain—
The bluebill and the buffle-head,
There stretched beside each other dead—
The graceful white-crested merganser—
The wild goose—Canada's great *anser*—
The osprey from his lightning sweep
Has flutured to eternal sleep,
The huge-winged heron often too
Has graced my beautiful canoe.

There lay the widgeon in his pride,
The mottled spirit duck beside,
The ruffed grouse, yellow leg and rail,
The cackling coot with restless tail,
The snipe, dabchick and golden plover,
The woodcock, monarch of the cover,
The night heron with drooping crest,
The bittern in loose garment dress,
Each has a place in past review,
In thee my beautiful canoe.

And last, not least, the antlered deer,
Has found his final pillow here,
Down from the "mountain's crown" he came,
The proud, majestic king of game!
"Swift in his wake" old Bugle's yell
Rose on the blast with echoing swell;
Like otter through the flood he dashed,
The paddle swept, the rifle flashed,
And on the crashing bullet flew,
He's lying in my bark canoe.

I look on thee through memory's haze,
And see once more the camp fire's blaze,
My loved companions seated round
That almost consecrated ground—
I hear their merry laugh again,

Mirth's careless, joyous, wild refrain ;
The joke, the song, the hunting story,
Return in all their vivid glory—
Green spots of bliss, alas ! how few,
My beautiful old bark canoe !

I look on thee and think upon
The happy days forever gone,
I miss, how sadly, from my side
My spirit's twin, my manhood's pride,
The ready hand, the loving heart,
The soul of my own soul a part,
The gentle voice, the smile which gave
Me courage to be true and brave—
All these were mine when thou wert new,
My beautiful old bark canoe !

WILLIAM PITTMANN LETT.

Ottawa, Nov. 19th, 1882.

AN EXPLANATION BY MR. WHITCHER.

Rideau Bank, Ottawa.

DEAR MR. COUPER,

Attention is drawn to certain passages in an article in *The Canadian Sportsman and Naturalist*, viz :—

"When Mr. Wilmot exhibited his fishes at Ottawa, the Editor of this Journal competed with a collection of stuffed, food-fishes from the Province of Quebec; many of the latter species were different from those exhibited by the former gentleman. The Quebec fish collection was offered to the Fisheries Department, at a reasonable price; the offer being made through Mr. Whitcher, who knew the lot was a bargain, and by his request, they were packed and left in Ottawa, to await a reply from the Chief of the Department. Some days afterwards an answer was received that the Department had no money to purchase stuffed fishes, and the collection was brought back to Montreal, where it was immediately purchased by Dr. Sterry Hunt and presented to McGill College Museum. Mr. Wilmot endeavoured to induce Mr. Whitcher to purchase the collection, and probably they now regret not having secured it.

The latter reference to myself is entirely incorrect. Your own recollection of that occasion should have suggested the improbability of this assertion. Please recall the facts: You were a professional exhibitor of stuffed fishes of your own handiwork at the Dominion Exhibition. Mr. Wilmot was President of the Association and exhibited stuffed fishes belonging to the Government, entered in his own name. I objected, through Dr. Sterry Hunt, to these being put in competition for personal prizes or medals, much to Mr. Wilmot's displeasure; and having failed to protect your industry in this way, I promised to do whatever could be done towards securing your valuable exhibit for this Department, and asked you to delay shipment. There are, as correctly stated in this article, no funds provided for such purpose; but as Mr. Wilmot's specimens had been procured out of fish-breeding funds, and were thus placed on exhibition for prizes or medals to himself, my idea was

to acquire your's in the same way through him, and a correspondence was had accordingly. He did not consider your's worth acquiring and so reported. It was therefore inconvenient for the minister to authorize the purchase, and my proposal dropped. I understood that the injustice towards you as a professional was somewhat softened by awarding you a second prize; but the chief prizes and gold or silver medals went the way they were probably intended from their origin.

By referring to a recent number of the *Toronto Globe* you will find it stated, in course of an interview with Mr. Wilmot, that he says "no Taxidermist can be found in Canada" whose work would appear in a favorable "light," "or whose specimens (presumably of fish) are artistic enough" to be attractive. This accords with his opinion of your's. Unqualified depreciation will doubtless be a surprise if not an amusement to many other Taxidermal artists besides yourself, who are obliged to labor in the business without such public encouragement or private patronage, as in older countries serve to enhance the art and improve the productions of Taxidermy.

I quite agree with the *Sportsman and Naturalist* that facilities should be afforded to form a museum of aquatic animals; and I have striven during several years past to impress its importance on official minds. Time passes rapidly and with it many of the opportunities to make a choice and finished collection are also passing away. The great representative specimens (particularly of our ichthyic fauna) are fast disappearing. We find the want of such a storehouse, as should long since have been formed, in connection with the fisheries service whenever the country requires to participate in public displays. Notably at the present juncture.

The article in question adds, referring to the International Fisheries Exhibition:—"We know that Mr. Wilmot, of Newcastle, Ont., has done his share to make a successful show, but some one in the Department is to blame for procrastination and want of energy." If the reflection is meant for my benefit—as most of the editorial reflects on me personally—your information on this point also is incorrect, as I have had nothing whatever to do with the matter, beyond making a timely statement of what was required to be done in order to do justice to Canada on so important and trying an occasion, offering also some practical suggestions as far back as last winter. Mr.

Wilmot claims to be charged with the duty; and if, as he complains through you and the *Globe*, there is indifference and neglect chargeable against the Canadian Government, and dilatoriness by the Imperial Commission, it must be obvious that the proper way to settle it is with the authority under which he says that he is acting, and certainly not through vague insinuations aimed at "Some one in the Department" on whom the blame of his own anticipated failure may if necessary be conveniently shifted.

This communication has been withheld hoping that Mr. Wilmot would correct the mis-statements. Reluctantly and in self defence I now ask you to please do so on my behalf.

Before parting let me add that I fully endorse what you have said of the value to his country, of such a "live" Commissioner of Fisheries as Prof. Baird, and as heartily do I join with you in wishing that we had his like in Canada, to say nothing of his zealous staff of scientists and other practical workers, all supported by ample means and adequate authority. The United States Government thoroughly appreciates the federal fisheries service; and besides maintaining it on a liberal footing, has always treated the able and earnest officer at its head in a spirit of justice and generosity, worthy of the great national interest which he seeks to promote, and the vast productive industry which he labors to develop.

Your obedient Servant,

W. F. WHITCHER.

LIST OF THE BIRDS OF WESTERN ONTARIO.

CONTINUED FROM PAGE 187.

126. *Asio Americanus*; Long-eared Owl. Uncommon. Occasionally several may be seen hunting a field in winter like Harriers.

127. *Asio accipitrinus*; Short-eared Owl. Rare. We have only taken four.

128. *Strix nebulosa*; Barred Owl. Common; breeds. Formerly abundant.

129. *Uhlula cinerea*; Cinereous Owl. Two in possession of S. Herring, Toronto, shot near London. Very rare in winter.

130. *Nyctale Acadica*; Acadian Owl. Rather rare. Not known to breed.

131. *Scops asio*; Mottled Owl. Our most common Owl. Breeds.

132. *Bubo Virginianus*; Great Horned Owl. Common. Breeds very early.

133. *Nyctea Scandiaca*; Snowy Owl. Occasionally common in winter. More regular along

the lake-shore, especially Lake St. Claire.

134. *Surnia funerea*; Hawk Owl. Very rare. One bought in the flesh in London, 187—. [E. W. Sandys.]

135. *Falco peregrinus navius*; Duck Hawk. Very rare inland. One taken near London, 187—. Frequently seen in fall at St. Clair Flats.

136. *Esalon columbarius*; Pigeon Hawk. Rare; three or four taken.

137. *Tinnunculus sparverius*; Sparrow Hawk. Our most common Hawk. Breeds.

138. *Pandion haliaetus Carolinensis*; Fish Hawk. Rare inland. More common along the lake-shore where it breeds.

139. *Elanoides forficatus*; Swallow-tailed Kite. Some years ago a pair of these birds stayed all summer about eight miles North-west of London.

140. *Circus Hudsonius*; Marsh Hawk. Rare inland. Very common along the large marshes, where it breeds.

141. *Accipiter Cooperi*; Cooper's Hawk. Rather common; breeds.

142. *Accipiter fuscus*; Sharp-shinned Hawk. Common in the fall, but only a few breed. Late in September, 1882, large numbers of these hawks were seen on Point Pelee, as many as fifty passing the house in a day. It seems they are equally abundant every year.

143. *Astur atricapillus*; Goshawk. Occurs frequently in winter and regularly at the St. Clair Flats.

144. *Buteo borealis*; Red-tailed Hawk. Common; breeds.

145. *Buteo lineatus*; Red-shouldered Hawk. The most common of our large hawks; breeds.

146. *Buteo Pennsylvanicus*; Broad-winged Hawk. Sometimes common in flocks during migrations. At other times single individuals are rather rare.

147. *Archibuteo lagopus sancti-johannis*; Rough-legged Hawk; Black Hawk. Common in fall at the St. Clair Flats.

148. *Aquila chrysaetos Canadensis*; Golden Eagle. Very rare. Mr. Sandys reports two—one of which was taken in the winter of '74-5 benumbed by cold, and is still alive in captivity.

149. *Haliaeetus leucocephalus*; Bald Eagle. Rather rare. A pair breeds regularly on a lake-side farm in Kent, and several pairs on Point Pelee. Seldom seen in the older districts. The pair on the Kent farm live chiefly on fish and muskrats, taking the former from the water themselves, winter and summer.

150. *Cathartes aura*; Turkey Buzzard. Reported from various points in the St. Clair marshes.

151. *Ectopistes migratoria*; Pigeon. Formerly abundant. Now rare except in the less settled districts.

152. *Zenaidura Carolinensis*; Dove. Regularly distributed and rather common; breeds. A specimen taken January 6, 1877.

153. *Meleagris gallopavo Americana*; Wild Turkey. Formerly common, but now very rare. A nest was found in Middlesex in 1878.

154. *Canace Canadensis*; Canada Grouse. One taken near Chatham.

155. *Bonasa umbellus*; Ruffed Grouse. Common; Breeds.

156. *Cupidonia cupido*; Prairie Hen. A few are resident at St. Clair Flats.

157. *Ortyx Virginianus*; Quail. Common; breeds.

158. *Ardea herodias*; Great Blue Heron. Common. Generally breeds in communities, but occasionally in single pairs.

159. *Herodias alba egretta*; Great White Egret. Regular but rare. near large bodies of water, sometimes even on rivers.

160. *Butorides virescens*; Green Heron. Rather rare. Occasionally quite common.

161. *Nycticorax nycticorax*; Night Heron. Occurs at the St. Clair Flats in small numbers where it probably breeds.

162. *Botaurus lentiginosus*; Bittern. Rare inland but common at the St. Clair and other marshes, where it breeds.

163. *Ardetta exilis*; Least Bittern. Occurs with the last but not quite so common, and more seldom inland.

264. *Streptopelia interpres*; Turnstone. Rare during migrations.

165. *Squatarola helvetica*; Black-bellied Plover. Common migrant.

166. *Charadrius dominicus*; Golden Plover. Formerly occurred in immense flocks. Now regular but in limited numbers in fall inland and during both migrations at the lakes.

167. *Oxyechus vociferus*; Killdeer. Rather common; breeds.

168. *Agialites semipalmatus*; Semipalmated Plover. Common at the lakes; uncommon inland.

159. *Agialites melodus*; Piping Plover. Common at Point Pelee where it breeds; elsewhere, occurring only along the lake-shore and rare.

170. *Philohela minor*; Woodcock. Rather common; breeds.

171. *Gallinago media Wilsoni*; Snipe. Common in the migrations. Many breeds in the St. Clair marshes as a pair were shot 17-5-'82.

172. *Macrorhamphus griseus*; Robin Snipe. Rare along the lakes.

173. *Actodromas maculata*; Pectoral Sandpiper. Occurs in flocks in the marshes in fall.

174. *Actodromas minutilla*; Least Sandpiper. Occurs rarely inland but is common on the lake-shore.

175. *Pelecanus alpina Americana*; Dendro. Common in migrations along the lakes.

176. *Ereunetes pusillus*; Semipalmated Sandpiper. Common migrant at the lake-shore but rare inland.

177. *Calidris arenaria*; Sanderling. Common migrant along the lakes.

178. *Limosa foda*; Marbled Godwit. Rare migrant along the lakes.

179. *Totanus melanoleucus*; Greater Yellow-legs. Rare inland but more common in the large marshes.

180. *Totanus flavipes*; Little Yellow-legs. Occurs with the preceding.

181. *Rhyacophilus solitarius*; Solitary Sandpiper. In the summer of 1879, this bird bred very commonly along the streams in Middlesex but since then has been quite rare.

182. *Bartramia longicauda*; Bartram's Sandpiper. Very rare. Only one specimen taken.

183. *Tringoides macularius*; Spotted Sandpiper. Common everywhere along streams and marshy spots.

184. *Numenius longirostris*; Long-billed Curlew. Formerly occurred as far inland as Middlesex—probably never now. Rather common migrant in the large marshes.

185. *Phalaropus fulicarius*; Red Phalarope. Very rare. Dr. Garnier shot one out of a flock of six in the fall of 1880 at Mitchell's Bay.

186. *Lopipes hyperboreus*; Northern Phalarope. Rare. Three taken in Middlesex; one found dead at Mitchell's Bay in May 1882.

187. *Steganopus Wilsoni*; Wilson's Phalarope. Very rare. One taken May, 1882, at Mitchell's Bay.

188. *Recurvirostra Americana*; Avocet. Extremely rare. One taken in the spring of 1860, at Rondeau. [E. W. Sandys.]

189. *Rallus elegans*; King Rail. Common at St. Clair Flats where it breeds. Mellwaith gives Clapper Rail but not King Rail—probably a case of mistaken identity as it is improbable that the Clapper will occur.

190. *Rallus Virginianus*; Virginia Rail. Rare inland but common at all the large marshes, where it breeds.

191. *Porzana Carolina*; Carolina Rail. Uncommon inland but breeds abundantly in the large marshes.

192. *Porzana Noveboracensis*; Little Yellow Rail. Rare in the large marshes.

193. *Gallinula galeata*; Florida Gallinule. Breeds very abundantly in the large marshes.

194. *Fulica Americana*; Coot. Almost as abundant as the last, and is also taken in the rivers inland.

195. *Grus Canadensis*; Sand-hill Crane. Extremely rare in the large marshes.

196. *Olor Americanus*; Whistling Swan. Occurs regularly at St. Clair and other suitable places.

197. *Olor buccinator*; Trumpeter Swan. In Jour. Proc. Linn. Soc., 1865, Rev. W. Hincks (Toronto) says: "*O. buccinator* is our commonest species." It must, therefore, occur with the other at St. Clair Flats, although we have no record of it.

198. *Chen hyperboreus*; Snow Goose. Very rare. Two specimens taken (E. W. Sandys).

199. *Anser albifrons Gambeli*; White-fronted Goose. Rare Migrant.

200. *Bernicla Canadensis*; Canada Goose. Common migrant.

201. *Bernicla brenta*; Brant. Rather rare migrant.

202. *Anas boscas*; Mallard. Uncommon inland but common migrant in the large marshes where a few breed.

203. *Anas obscura*; Black Duck. Common migrant. A few breed in the large marshes, also taken inland.

204. *Chaulelasmus streperus*; Gray Duck. Rather rare but occurs regularly at St. Clair.

205. *Dafila acuta*; Pintail. Common. Breeds at St. Clair.

206. *Mareca Americana*; Widgeon. Rather common. May breed.

207. *Spatula clypeata*; Shoveller. Rather rare at St. Clair Flats, and may breed.

208. *Querquedula discors*; Blue-winged Teal. Common. A few still breed at St. Clair.

209. *Nettion Carolinensis*; Green-winged Teal. Common migrant. Not known to breed.

210. *Aix sponsa*; Wood Duck. Regularly distributed and rather common. Breeds along the marshes and rivers.

211. *Fulix marila*; Scaup Duck. Very common migrant. A few breed at St. Clair. Also taken common inland.

212. *Fulix affinis*; Bluebill. Like the preceding. Also taken common inland.

213. *Fulix collaris*; Ring-billed Duck. Common in some migrations in the large marshes.

214. *Æthya vallisneria*; Canvas-back. Rather rare at St. Clair Flats. Migrant.

215. *Æthya Americana*; Redhead. Very common migrant, and some breed in the large marshes. Also taken inland.

216. *Clangula glaucium Americana*; Golden-eye. Rather common migrant. Also taken inland.

217. *Clangula albeola*; Bufflehead. Common migrant and a few breed at St. Clair Flats. Also taken inland quite common.

218. *Harelda glacialis*; Long-tailed Duck. Rather rare migrant at St. Clair. An immature

male was picked up in the snow January, 1881, near Hyde Park.

219. *Ædemia Americana*; Scoter. Rare migrant.

220. *Melanetta velutina*; Velvet Scoter. Very rare migrant.

221. *Erismatura rubida*; Ruddy Duck. Abundant migrant and a few breed in the marshes. Also taken inland, common.

222. *Mergus merganser Americanus*; Goosander. Common migrant both on rivers and lakes.

223. *Mergus serrator*; Red-breasted Merganser. Rare migrant.

224. *Lophodytes cucullatus*; Hooded Merganser. Common migrant both inland and at the lakes.

225. *Pelecanus erythrorhynchus*; White Pelican. One taken near Chatham 187—; also one near Ingersoll several years ago.

226. *Phalacrocorax carbo*; Cormorant. Occurs rarely along the lakes.

227. *Larus argentatus Smithsonianus*; Herring Gull. Common. Probably breeds.

228. *Larus Philadelphix*; Bonaparte's Gull. Common in spring in fall.

229. *Sterna Forsteri*; Forster's Tern. Common; breeds at St. Clair.

230. *Sterna fluviatilis*; Common Tern. Breeds at St. Clair but in smaller numbers than the last.

231. *Hydrochelidon lariformis surinamensis*; Black Tern. Breeds very abundantly at St. Clair marshes.

232. *Podiceps Holbolli*; Red-necked Grebe. Very rare; one taken at Mitchell's Bay.

233. *Dytes auritus*; Horned Grebe. Breeds abundantly at St. Clair Flats.

234. *Podilymbus podiceps*; Carolina Grebe. Breeds abundantly at St. Clair Flats.

235. *Colymbus torquatus*; Loon. Common in the large marshes and at some points in the lakes. Breeds.

236. *Colymbus septentrionalis*; Red-throated Diver. Very rare. One shot on the Thames near London in spring 1881. Occasional at St. Clair Flats.

INTELLIGENCE AND HUMOUR IN A HORSE.

A friend and neighbor of mine, recently informed me, that a few years ago, his father possessed a colt which exhibited proofs of intelligence amounting to reason, and also to a certain degree of a sense of humour. The stables on his farm are ranged in a row under the barn, and the lower doors are fastened, as usual, with a long wooden bolt. The colt learned in some way how to draw back the bolts, and so to open the stable doors and let out all the other horses which stood loose in the stalls. He then

seemed thoroughly to enjoy the mischief he had done. In order to prevent this practice, which became troublesome, holes were bored in the doors behind the bolts, and wooden pins inserted, so that the bolts could not be drawn back without first taking out these pins. For some time this device baffled the colt, but before long he found out how to evade it, and used to pull out the pin with his teeth, draw the bolt and let the door fall open as before. He would then gallop off with the pin in his mouth and drop it where it could never be found again. After having thus opened the doors and let out the horses, his master would often try to catch him, but the stables communicated with one another at the back, and the colt used to dodge the old man in at one door and out at the other, as in pure fun or mischief, until some one of the younger and more active men, came with a stick and brought him to terms. The above acts indicate no low order of reason, and certainly look as if the colt enjoyed playing the pranks and witnessing the discomfiture of his master.

E. W. CLAYPOLE,
New Bloomfield, Perry Co., Pa. }
Nov., 26th 1882. }

CANADIAN OÖLOGY.

DEAR SIR,—I am much interested in the list of Western Canadian Birds contributed by Messrs. Morden and Saunders, to the November number of your Journal. Having promised to continue my experience in Oological study during the past season, I beg to send the following notes:—The *Wood Thrush* and *Wilson's Thrush*, are quite abundant in this vicinity, but until the past summer I had but little personal knowledge of the Hermit Thrush. In June last, however, I discovered three nests of the latter species. The first, which contained four eggs, was placed in a low beech bush, nearly two feet from the ground, and was composed of dry leaves, stalks of dry weeds, bramble, rotten wood, rinds and small roots. Surrounding the nesting-place was a thick growth of low brushwood. The second nest containing four eggs, was placed in an old turned up root, about four feet from the ground, and in the midst of a grove of young tamarac. When discovered, the bird was sitting on the nest and I could have caught her had I wished to do so. The third nest, containing two eggs, was placed in a bunch of yellow water lilies, a few inches above the water of a pool. Early in April I saw a solitary specimen of the

Olive-backed Thrush, but I have not yet discovered its nest. On the 6th of June, I noticed a small species of Thrush, new to me, building her nest. The site chosen was a cavity in a low bank, overshadowed by a small hemlock, on the margin of a swamp, near water. A large quantity of dry leaves was used in raising the foundation to the required position. When I visited it a week after, the foundation of the nest was burrowed by some small animal, but I found one egg beneath it. This egg was marked exactly like that of the Golden-crowned Thrush; but it was much smaller in size. The other nest of this species, which contained five eggs, was placed in a corner of a turned up root, the top of which hung over, sheltering it from sun, rain, and observation, and beneath which was a pool of water. The female sat upon this nest until my hand was a few inches off. The colour of the bird was slaty-black on the upper parts, yellow below, with black marks extending downwards from the throat. Length five inches; common notes, a sharp "chip." Song of the male resembling the words "dure dure lidy, dure lee." I have since identified this species as the Large-Billed Water Thrush, (*Seiurus ludovicianus*). On the 8th of June, I discovered the nest of a species of warbler hitherto unknown to me. This was situated in a small balsam, (in a black ash swamp,) four feet from the ground, and formed of small stalks of weeds, rootlets and fine hair, much in form and size like the nest of the Chipping Sparrow. This nest contained four fresh eggs, white in colour, with a ring of reddish spots towards the largest end and a few dots of the same hue near the centre. I identify the latter species as the Myrtle Bird, or Yellow-Rump Warbler, (*Dendroeca coronata*). The nest and eggs are in my collection. I also collected for the first time, two nests of the Chestnut-sided Warbler. One was situated in a cluster of raspberry vines; the other, in a small scrubby beech; the first contained two of its own eggs, and two Cowbird's; the other, four, and one Cowbird's. The eggs of the Cowbird were also found in the nests of the Black Snowbird, Swamp Sparrow, Song Sparrow, Chipping Sparrow, Yellow Warbler, Golden-crowned Thrush, Red-eyed Vireo and Water Wagtail. This latter nest was the first of this species that I have seen; it was placed in the cavity of a large turned up root, over a pool of water, into which the bird jumped when she left the

nest. The nest was like that of the Snowbird, and contained four of its own eggs, besides that of the Cowbird. These were white, thickly dotted towards the large end, with reddish spots. They were, however, (June 8th,) nearly incubated; so I did not remove them. On the 7th of June, I collected in a beaver meadow, some two miles north of the town, three nests of the Purple Finch; these were situated near the tops of small balsams. Four eggs are the general set. On the same date, I took from a small thorn bush, a nest of two eggs, which I have marked as belonging to the Black and Yellow Warbler. The Yellow Warbler is quite abundant in this neighbourhood now, though it is only a few years ago since I first noticed it, and the same may be said of the Bobolink. The Catbird is numerous in this locality, I have seen several nests this season, but never, except on one occasion, saw more than four eggs in a nest. The Red-wing Blackbird is also numerous; collected several nests this season, mostly from flags in water ponds, or the margins of creeks. The Highholder or Golden-winged Woodpecker, is the most abundant of this class of birds here; I have collected some five or six sets of its eggs this year. There are generally six eggs in each set. Altogether I have collected eggs of some forty different species of wild birds this season, and obtained seven additional species by exchange, from J. A. Morden, Esq. I have now in my collection specimens of the eggs of nearly seventy Canadian birds. When in London, on the 27th of September, last, I identified among the grand collection of Canadian and foreign birds, exhibited by J. A. Morden, Esq., a specimen of Cooper's Hawk, as the species whose nest and eggs I described in my last article.

WM. L. KELLS.

Listowel, Ont., Nov. 1882.

COLEOPTERA FOUND IN THE PROVINCE OF QUEBEC.

By WILLIAM COOPER.

PHRYGANOPHILUS collaris, *Lec.*
 STENOTRACHELUS arcatus, *Say.*
 CRYMODES discicollis, *Lec.*
 PYTHO Americana, *Kirby.*
 PRIOGNATHUS monilicornis, *Baird.*
 BORUS unicolor, *Say.*
 SALPINGUS virescens, *Lec.*
 CALOPUS angustus, *Lec.*

This insect has a wide distribution, from New Mexico to the city of Quebec. Mr. Provancher says it is rare about the neighbourhood of the latter city. When I collected there, they were abundant at the upper end of St. John St., near the Finlay Asylum.

DITYLUS coeruleus, *Rand.*

NAR CERDES melanura, *Linn.*

OXASIS 1 notoxiodes, *Fabr.*

2 thoracica, "*"*

ASCLERA ruficollis, *Say.*

CEPHALON lepturides, *Newm.*

ANASPI 1 flavipennis, *Hald.*

2 rufa, *Say.*

MORDELLA 1 marginata, *Mels.*

2 linearis, "*"*

MORDELLISTENA 1 scapularis, *Say.*

2 pityoptera, *Lec.*

PELECOTOMA flavipes, *Mels.*

CORPHYRA 1 lugubris, *Say.*

2 collaris, "*"*

3 fulvipes, *Newm.*

NOTOXUS anchora, *Hentz.*

ANTHICUS 1 rejectus, *Lec.*

2 formicarius, *Laf.*

3 floralis, *Payk.*

4 corvinus, *Laf.*

DENDROIDES Canadensis, *Latr.*

PYROCHROA flabellata, *Fabr.*

SCHIZOTUS cervicollis, *Newm.*

MELOE angusticollis, *Say.*

MACROBASIS unicolor, *Kirby.*

EPICAUTA 1 Pensylvanica, *DeGeer.*

2 vittata, *Fabr.*

POMPHOPAEA aenea, *Say.*

MYODITES 1 fasciatus, *Say.*

1 stylopides, *Newm.*

BARYNOTUS undulatus, *Uhler.*

SITONES 1 lepidus, *Gyll.*

2 scissifrons, *Say.*

PANDELETEIUS hilaris, *Herbst.*

OTIORYNCHUS 1 sulcatus, *Herbst.*

2 ligneus, *Oliv.*

CYPHOMIMUS dorsalis, *Horn.*

L'abbe Provancher described this species as MICRONYCHUS sulcatus which falls, it being preoccupied by OTIORYNCHUS sulcatus, *Fabr.* The insect is now known as C. dorsalis as above.

PHYXELIS glomeratus, *Schoen.*

LISTRONOTUS 1 appendiculatus, *Boh.*

2 latiusculus, "*"*

ITHYCERUS Novaboracensis, *Forst.*

PHYTONOTUS nigrirostris, *Fabr.*

LIXUS musculus, *Say.*

LEPYRUS colon, *Linn.*

Continued from page 188 No. 11.

ORIENTAL FRUIT LAXATIVE.

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Birds of Western Ontario.—Messrs. Morden and Saunders have recently published a briefly annotated 'List of the Birds of Western Ontario,'* based on observations "made at and near Hyde Park, London, Mitchell's Bay, Point Pelee, and Lucknow," and numbering 236 species. The list has evidently been prepared with much care and forms a valuable addition to our knowledge of the distribution of Canadian birds. Among southern species included we note the Swallow-tailed Kite, the Cardinal Grosbeak, the Blue-gray Gnatcatcher, Hooded Warbler, Mocking Bird, Rough-winged Swallow, Turkey Buzzard, Avocet, Great White Egret, Glossy Ibis, etc.; and among northern species the Bohemian Waxwing, Evening Grosbeak, both species of Three-toed Woodpeckers, the Cinereous Owl, Hawk Owl, etc. Comparison with Mr. McIlwraith's well-known excellent list of the birds of Hamilton, Ont., published in 1866, shows that, while it contains 5 species less than that, it includes 19 not enumerated in the Hamilton list.

In this connection attention should be called to Mr. McIlwraith's recent interesting collation of the two lists,† his article forming an instructive commentary on the general subject, and at the same time a supplement to his own earlier list, he adding 7 species not contained in either of the two lists here under notice, raising the number of species thus far noted in Western Ontario to 260.—J. A. A.

Auk, I, Jan., 1884. p. 85

* List of the Birds of Western Ontario. By J. A. Morden and W. E. Saunders' Canadian Sportsman and Naturalist, Vol. II, Nos. 11 and 12, pp. 183-187, 192-194, November and December, 1882.

† Canadian Sportsman and Naturalist, Vol. III, pp. 108-200, Jan. 1883.

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J. A. M.
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PYROCHROA flabellata, *Fabr.*

SCHIZOTUS cervicollis, *Newm.*

MELOE angusticollis, *Say.*

MACROBASIS unicolor, *Kirby.*

463. *The Indigo Bird.* By Charles Aldrich. *Ibid.*, XV, p. 394.—Not uncommon at Webster City, Iowa.

464. *Birds out of Place.* By Charles Aldrich. *Ibid.*, V, pp. 476, 477.—Red-winged Blackbirds and Robins seen in December and January at Webster City, Iowa.

465. *Curious Instances in the Breeding Habits of the Bluebird.* By A. M. Reynolds. *Ibid.*, XV, p. 478.

466. *The Eastern Snowbird.* By Rev. Samuel Lockwood, Ph. D. *Ibid.*, XV, pp. 518-526.

467. *The Great Crested Flycatcher.* By Mrs. Mary Treat. *Ibid.*, XV, pp. 601-604.

468. *Brief Notes on Some Iowa Birds.* By Charles Aldrich. *Ibid.*, XV, pp. 654-656.—On the Indigo Bird, Robin, and Blue Jay.

469. *Habits of the Yellow-bellied Woodpecker.* By H. C. Bumpus. *Ibid.*, XV, p. 738.

470. *Breeding Habits of the Fish Hawk.* By H. C. Bumpus. *Ibid.*, XV, pp. 809, 810.

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THE

CANADIAN SPORTS AND NATURALIST

A
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VOL. III.
No. 1.
1883.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. I.

MONTREAL, JANUARY, 1883.

VOL. III.

WILLIAM COUPER, Editor.

UNPAID SUBSCRIPTIONS.

Some of our friends have not yet sent us the amount due for last year's subscription. We hope this reminder will cause a prompt remittance, as we feel confident that all our subscribers are able and willing to pay.

BACK NUMBERS.

We have several volumes of our second year, also a few of our first, which we can furnish at one dollar per volume. Subscribers who are short of any numbers would do well to communicate with us at once, and we will endeavour to supply them as far as possible.

TO OUR SUBSCRIBERS.

We have now entered upon our third volume, the first number of which will be sent to subscribers of last year, trusting all will continue their subscription.

The Journal has been progressing during the past two years, and further efforts on the part of our friends, will enable us to extend its columns.

The study of Natural History has made rapid progress during the past few years, and we have now in Canada many students whose notes and observations, if published, would become valuable additions to this branch of literature. We are promised contributions by some of our more advanced Ornithologists and Entomologists and have no doubt this volume will contain many interesting observations not hitherto recorded, and thus become a valuable reference to those interested in these studies. We have, so far no recent works upon the Natural History of our Dominion. In Ornithology we think the time has arrived when a properly compiled work would be favourably received, and we trust, ere long one of our rising Ornithologists will give us a book on the "Birds of Canada," as valuable and interesting as the volumes of American writers.

FISH AND GAME PROTECTION.

The annual meeting of the Fish and Game Protection Society of the Province of Quebec was held in Montreal on the 20th instant. The twenty-fourth annual report submitted was an unusually satisfactory one, a large addition having been made to the membership during the past year. The following gentlemen have been appointed officers for the ensuing year. President—Mr. E. C. Monk; Vice-President—Mr. L. A. Boyer; Treasurer—Mr. Thos. Hiam; Secretary—Mr. G. H. Matthews; Committee—Messrs. F. J. Brady, R. H. Kilby, H. R. Ives, J. H. Stearns, S. Cross, W. S. Macfarlane, F. Henshaw, Alderic Deschamps, E. B. Goodacre, J. C. Nelson, John Nelson, W. Parker, Gustave Drolet, H. Rintoul, and Geo. McKinnon.

MIGRATION OF OWLS.

A female of Richardson's Owl (*Nyctale Richardsonii*) was captured at St. Laurent, near Montreal, on the 4th instant. It died after a weeks confinement in a cage. On dissection, the ovarium was found to be in an advanced condition, and the eggs of a size sufficient to show that there is no doubt of its nesting in the mountains north of Montreal. No one has yet positively discovered the nest of this interesting little owl in Canada, but from what we noticed, this specimen supplies conclusive evidence that it would not go far north of the city to construct its nest. Owls, as a rule, build early in the year, the young of some species being found fully fledged in April and May. The Snow Owl appeared abundantly in the low lands of this Province in December last, remaining but a short time after the first heavy fall of snow, and the Barred Owl, almost as common, visited the neighbourhood of Montreal, probably after the Domestic Sparrows. The little Saw-whet Owl was not uncommon throughout the country during the month of January. The above species are more or less diurnal or crepuscular in their habits, and are therefore more easily discovered. Two other species of this class the Great Cinereous and Hawk Owl, formerly occurring here during December and January seem to have so far absented themselves this

fall. The Horned Owls being more of woodland birds, are not so easily seen or procured when the snow is deep, but it is evident that all the species of STRIGIDÆ are abundant this winter. It would be well to investigate why these day owls appear in the neighbourhood of civilization during the months of December and January just for a short season, and then disappearing until the next cold fall sets in again.—C.

Correspondence.

SIR,—At the present time, when so much excitement prevails at home and abroad, regarding the prospective wealth of our country, and when so much capital and energy are being expended in developing its resources, it is pleasant to notice that those branches of its Natural History which are not directly associated with the acquisition of wealth, are not being forgotten, and that while hundreds are striving to gain possession of the most productive lands, the richest mineral deposits or the most valuable timber limits, a quieter class of workers are equally busily engaged collecting, and identifying such specimens of Natural History as come within the range of their observation throughout the country; the results of their researches are being placed on record, and when the excitement attendant on the first settlement of the new country now being opened up, has subsided, it will be a pleasant pastime for the rising generation to read therein the names and habits of the beautiful birds and flowers which surround their homes. I have been led to make these remarks on reading in recent numbers of your magazine, a list of birds of Western Ontario, by J. E. Morden and W. E. Saunders, of London; a list which I am sure will be valued by many a lover of birds throughout the country. It is very complete, yet it is by no means a compilation of the labours of others as such lists frequently are; on the contrary it bears (with very few exceptions) the impress of direct personal contact with the objects described. Great diligence and perseverance must have been bestowed on the subject to enable the collectors to bring it before the public in so complete a shape; yet I can also imagine their having much real enjoyment and many a pleasant ramble which only the enthusiastic student of nature can understand. In 1866, I published a similar list of birds observed near Hamilton, and on

placing the two side by side, it is astonishing to notice how closely they agree; the differences arising chiefly from stragglers which may have appeared at one point and not at the other. The following are the principal points of difference which if taken along with the recent list, may help to complete our knowledge of the subject. In the Hamilton list the total number of specimens enumerated was 241; in the London list the total number is 236. In the *London* list the following sixteen species are included which do not appear in the *Hamilton* list.—Swallow-tailed Kite; Cardinal Grosbeak; Red Phalarope; Little Yellow Rail; Scoter Duck; Tennessee Warbler; Hooded Fly-catching Warbler; English Sparrow; Mocking Bird; Common Tern; Wilson's Phalarope; Forster's Tern; Blue-gray Gnat-catcher; Long-billed Marsh Wren; Rough-winged Swallow; Banded three-toed Woodpecker. The Swallow-tailed Kite is a southern species, but a wanderer of powerful wing, who may occur again as a visitor. The Cardinal and Mocking birds are from the south, but come so close to the frontier that these may be only the pioneers of larger numbers yet to come. The little Yellow Rail; the two Terns, and the Long-billed marsh Wren, seem to prefer the greater retirement and shallower warmer water of the St. Clair Flats to the cooler inlets of Burlington Bay where I have not yet observed them. The Scoter, Tennessee Warbler, Hooded Warbler and Blue-gray Gnat-catcher, I have met with since writing my list. The Rough-winged Swallow had probably not appeared in Canada in 1866, as I find it was not met with in New England till 1875, when only one specimen was found; since that time it occurs breeding in little communities throughout the Eastern States. For the same reason, the English Sparrow was not named, as he was not introduced here till about 1873; since that time, he has passed through the different stages of rare, common, exceedingly abundant; what his next stage will be, may be affected to some extent by the members of the Fruit-growers Association, as I notice it as a matter announced for their consideration during the coming year. Wilson's Phalarope is a bird of the Prairie ponds which may again be found in suitable localities. The Red Phalarope and the Woodpecker are uncertain visitors from the north. Referring to the Ruby-crowned Wren, the London list says "they arrive from the north in October, and in mild winters remain." I was aware that

the *Gold-crest* wintered with us, but have not hitherto heard of the *Ruby-crown* doing so; if this is found to be strictly correct, it would indicate a milder climate than we have. The Northern Shrike it also says "remains in mild winters but very few breed; if even a few breed, it is well to be assured of it; but the two shrikes get so often mixed up that I think it would be well to revise this item, as to their staying with us in *mild* winter; they are most common here in severe weather; and at present may be seen any day scalping poor *Passer domesticus* in the public thoroughfares. The Mourning Warbler, Red-bellied Woodpecker and Yellow-billed Cuckoo still continue rare here as in 1866, the latter two I have not seen again since that time, on the contrary the Orchard Oriole was observed here at different points last summer and several pairs were known to breed near the city though, till then I had not heard of it since the notice made on my list. Early on a May morning of 1882, a male in full plumage appeared to my great delight in my orchard; I watched him sailing with outspread wing and tail, from one fruit tree to another till I got familiar with his notes and manner—then; no—I did not shoot him; it was Sunday and I deferred that operation till the morrow, but on the morrow he was gone and I saw him no more. In the Hamilton list the following twenty-two species are included which do not appear in the London list. Baird's Buzzard; Richardson's Owl; White-fronted Owl; Yellow bellied Fly-catcher; Green black-capped Fly-catcher; Hudsonian Curlew; Surf Duck; Pomarine Skua; Robin Snipe (*Tringa canutus*); Eider Duck; Buteo elegans; Caspian Tern; Wilson's Tern; Black Guillemot; Foolish Guillemot; Great black-backed Gull; Rosy Gull; Solan Goose; Black Hawk; Canada Jay; Glossy Ibis; Hudsonian Godwit. As the result of investigation made since 1866, it is now believed that Baird's Buzzard is a different form of Swainson's Buzzard. The White-fronted Owl, the young of the Saw-whet Owl, the Black Hawk, a condition of the Rough-legged Buzzard, and Buteo elegans of the Red-shouldered Hawk. All the others are good species, some of which I have met with again and some I have not. The two little Fly-catchers will assuredly be met with by the London collectors, if they continue their researches as though rare, they are regular visitors. I have now to mention the occurrence in Canada of a few species which do not

appear in either of the lists. *Helminthophaga celata*, Orange-crowned Swamp Warbler—When visiting at the shop of a Taxidermist in Toronto a few years since, a boy brought in a capfull of warblers he had collected for the artist, and I picked out a specimen of *celata* from among the lot; it was a male, but so badly shot that the specimen was lost and I have not met with it since. *Aegiothus Xelipes*—Mealy Red-poll. I find this bird described in some works as a distinct species and in others as a northern variety of the common Red-poll. Whatever his true position may be in science, he differs in appearance as much from the common Red-poll as the Northern Shrike does from the *excubitoroides*. The general appearance of the bird is hoary-grey and so densely covered with feathers that the bill and feet are scarcely visible. *Tryngites rufescens*—Buff-breasted Sandpiper. A few years since, in a moist grassy hollow on the beach, I met with six of these delicate little birds and so gentle were they and unsuspicious that I obtained them all. In August of the following year I saw a few again at the same place, but a railroad now passes over that spot, and as I never saw them elsewhere, I may not see them again. *Numenius Borealis*—Esquimaux Curlew. I captured a specimen of this little sickle-bill, near the same resort as the preceding. He was alone, evidently a straggler from a passing flock. *Tringa Bonapartei*—Bonaparte's Sandpiper. This plain looking species I think is quite common with us, though from its general resemblance to several other kinds, is easily overlooked. *Larus Tridactylus*—Kitty-wake Gull.—This species is quite common round the bay for a few weeks every fall. *Strix flammea*—Barn Owl.—The occurrence of this species deserves something more than a passing notice, as so far as I am aware, this is the only instance of its being found in Canada. It is resident in the United States from the Atlantic to the Pacific, as far North as the latitude of North Carolina, keeping mostly along the sea coasts, becoming rare in the interior. In Scotland where the species is common, it is mostly found to frequent retired country church towers or hide away among the ivy which covers some ancient ruin. Superstition still lingers among the people in the rural districts and the owl is looked on as a bird of evil omen whose visit to a farm house is always received as a "*warning*" that some calamity is about to befall the family. Its cry is by no

means refreshing and many a sturdy Scot who could fix his bayonet and with nerves of steel, march to meet an unreasonable number of his country's toes, has quailed at the cry of the "Hoolet" when unexpectedly heard in some lonely glen. In his nocturnal excursions he is a frequent visitor to the church and graveyard and has even been seen to alight on the tombstones; perhaps the abundance of mice among the rank grass of the burying ground and the protection which the sacredness of church property affords may to some extent account for this habit; but strange to say our visitor here shewed the same predilection, as the first notice I heard of him was from one of those boys who are always alive to such things, who told me that "a fellow out near the Cemetery had killed a new kind of an owl, white and yellow with a very sharp nose." On interviewing the captor, he said he would never have known he was there, had it not been for a lot of crows who gave him away by the awful row they were keeping up round a clump of pines; taking his gun, he jumped the fence, and saw the owl in the thick of the evergreens, with the crows assailing him on every side. A charge of No. 5 killed the owl and the meeting broke up. It was a young male in fine plumage, caught perhaps in the strong south wind which prevailed for a few days during the first week in May, 1882, and carried much farther north perhaps than he intended. To get at the total number of species thus far observed in Western Ontario, it will be necessary to take from the 241 described in 1866, the four already referred to as not being good species, leaving 237 to which add 16 in the London list not included in the Hamilton one, and also 7 which do not appear in either list making in all 260 species which I think will satisfy your ornithological readers that the birds of Western Ontario have been pretty well identified. There are still a few more which I think will yet work their way round the west end of Lake Erie and, like the Orchard Oriole, make their homes among us. Of this class I would name the Summer-red bird; Tufted Titmouse; Great Carolina Wren; Black-throated Bunting; Blue Grosbeak; Prairie Warbler; Worm-eating Warbler; all these already come so near our border that a favorable wind during the spring migration may any season land them among us. When such takes place I hope you will hear of it and let us all know.

Yours very truly, T. McILWRAITH.
Cairnbrae, Hamilton, January 20, 1883.

ORNITHOLOGICAL NOTES.

"PROLIFIC" SWALLOWS.

The White-bellied Swallow, *Iridoprocne bicolor* (Vieillot) Coues: usually lay five or six eggs. Last year I experimented with a nest of these birds, which resulted in thirteen eggs being laid, as follows. April 16, entering cigar box that I had cut a small hole in, and nailed to the veranda outside my bed-room window. May 9, building nest. May 29, two eggs laid. Took one out each day from the latter date, to 5 June, being seven eggs taken out, and one left in the nest. June 17, nest contained six eggs, which I did not take. 25 June, feeding young. 14 July, young fledged.

"UNIQUE" CATBIRDS EGGS.

On the 8th July, 1872, I found a Catbird's (*Mimus Carolinensis* (Linnaeus)) nest in a thin bush about four feet high, containing two eggs of the ordinary size, and colour: but, both are covered all over with distinct, small, dark spots. I have examined a large number of Catbird's eggs, and never before, saw, or heard of any with marks on them.

CROW BLACKBIRDS.

I think we have two species of Crow Blackbirds in Canada, viz.—*Quiscalus major* (Vieillot,) Boat-tailed Crow Blackbird; Jackdaw and *Q. purpureus* (Lichtenstein,) Purple Crow Blackbird; Purple Grackle. I have only observed the former in company with the latter. The only apparent difference between them being a peculiar spreading of the tail feathers when on the wing, resembling the form of a boat. Can any readers of the C. S. & N. inform me if there is any difference between the nests and eggs of the two species?

ERNEST D. WINTLE,
Montreal.

CAT BIRDS EATING BEES.

In the summer of 1879, my attention was drawn to the frequent visits of a pair of Catbirds to my apiary, and a close observation of their movements left no doubt as to their object. A bee was taken at each visit and carried to a neighbouring copse; where, after a short search I discovered their nest with young. Pity for the young birds at first prevented me from destroying the parents, but a desire to further investigate the extent of their depredations prevailed, and I shot both birds. Upon examination I found that the

young were being fed entirely upon bees, but I could only discover the bodies of drones or males; whether the instinct of these birds prompted them to select the drones in preference to the workers on account of their superior size and slower movements, or from a fear of the stings of the latter, I could not determine. Numbers of Cat-birds have for years past nested in the vicinity of my apiary, but I do not know of any other instance of these birds feeding upon bees.

W. W. DUNLOP.

Montreal, January 27th, 1883.

SPARROW NOTES.

The well known fact, that the animal and vegetable productions of the old world, when transplanted to America, thrive and multiply, has been further attested by the spread of the common sparrow of Europe, (*Passer domesticus*) over a large part of this continent during the few years which have elapsed since its introduction. Extending on every side from the various cities into which it has been brought, it has spread over the country adjacent, and in time, will, no doubt, be everywhere abundant as far as its Southern limit. How far this will extend is an interesting question: Its range in the Old world is extensive from east to west,—from the Atlantic Ocean to Siberia. From north to south it is found all over Europe, but becomes rare in Italy south of Piedmont, and only occasionally is seen in the north of Africa. In Asia it extends southwards to the northern parts of India. It has been introduced into the Southern States of America, but, according to a statement in a recent American publication, it will not live in the hottest portions of the south, the excessive heat being fatal to it. How the species can exist in Canada during the excessive cold of winter, is certainly remarkable. And yet this hardy bird not only lives, but contrives to find abundance of food. An exceptionally cold season, however, no doubt destroys a good many individuals. I have seen the bodies of sparrows, picked up dead in the street in very cold weather, which were plump and well fed, and without any injury, so that the cause of death was probably nothing but the intense cold. In such weather they seek shelter as much as possible, and but few are seen on the wing. During several past summers, I have noticed sparrows with plumage different from the general colours of the species. Many of their wing and tail

feathers were white; in some more than others, so that some individuals appeared to be altogether greyish white. I am not aware whether the bird in Europe is subject to albinism. If not, perhaps the different climatic conditions it is exposed to in Canada are a cause of the variation in colour. The question as to the usefulness or otherwise of the sparrow in Canada is still a vexed one. At present, gardeners and farmers may be benefited by them to some extent, as they are not so numerous as to be destructive. I think, too, that between the winters' cold and the attacks of their feathered enemies, their multiplication to an injurious extent will be prevented for many years. They have, however, been introduced and acclimated, and the mischief, if it is a mischief, is now done. We trust the threatened war of extermination will not need be waged against them for a long time to come.

H. K. C.

THE WOOD-THRUSHES (*HYLOCICHLA*) OF NEW BRUNSWICK.

By M. CHAMBERLAIN, St. JOHN, N.B.

This Province can lay claim to but three members of this sub-genus of the *Turdide*, the Tawny, also called "Wilson's Thrush," and "Veery," the Olive-backed and the Hermit, for the Wood Thrush does not come so far north on the Atlantic seaboard, rarely occurring beyond Massachusetts and never reaching the northern limit of the Alleghanian faunal area, while its grey-cheeked congener, though probably passing through the country *en-route* to its breeding ground in the far North, has not as yet been taken within our boundaries. The Hermit and the Olive-backed are abundant throughout the Province and the Tawny is much too common to be called rare. They usually reach the vicinity of St. John during the first half of May, the Hermit arriving first, followed within a few days by the Tawny and in some two weeks by the Olive-backed. They leave here about the middle of September. These species have a general appearance when in the field so similar that none but experts can distinguish them, though, upon a close examination, the characteristics of each are found to be marked with sufficient distinctness to leave no doubt of their identification. In the field all three have the same outline from beak to tail, the same russet coloring above the same dull white breasts, more or less

spotted; but lay examples of each side by side and it will prove that the Tawny was correctly named, for his russet plumes have a reddish tint in marked contrast with the greenish shade of the Olive-backed, while the Hermit is distinguished by his tawny tail which changes to olive above the rump. But the actions of these birds are more nearly identical than either form or color, for whether seen hopping along the ground or perched upon a tree, feeding or flying, it is impossible to detect any difference in them.

Much has been written about these same manners that is not warranted by what is observed of them during their visit to this country. While here they appear neither timid nor shy, and I doubt if they ever yield to such plebian weaknesses. These birds are patricians, the premier genus of the arian aristocracy on Mr. Ridgway's roll, and true to the instincts and traditions of "the first families" are modest and retiring, and prefer the calm repose of the forest to the glare and bustle of the field and roadside. They are courageous and composed under excitement, but never quarrelsome, and are happy without being noisy. In short, they display the good breeding and refined manners of the thoroughbreds that they are. They cannot be called gregarious but they are not solitary—Hermit Thrush is a positive misnomer. They do not commingle as socially as do the species of some other families; indeed, they never appear as companions, yet it is not unusual to find a number of the same species frequenting one grove. I have seen as many as thirty Hermits within an area of a hundred yards square. In nidification our three species exhibit a marked difference; the nests are differently constructed and placed in different situations. Their eggs also differ in shape, size and color, and their songs differ—differ in tone, compass, volume, theme and duration.

The Tawny and the Hermit always build on the ground in this country, and though their nests and its location are quite similar yet they are not identical; both nests are loosely and roughly put together, but Veery's is the most compact and the neatest. They are usually placed in an indenture, either natural or formed by the birds, and screened by an overhanging branch, but while the Veery prefers a dry knoll in a damp spot, within a wood, the Hermit usually selects the margin of a grove or a patch of trees in a dry and partially overgrown open; neither build in a

dense thicket of trees or shrubbery. Under the nest is placed a cushion or platform composed of dried grass or moss. The nest proper is built of dried grass and small twigs, unmixed with mud, and is lined with fine grass; sometimes fine fibrous roots and vines are added to the lining.

The Olive-backed builds in a tree, and, like all tree-builders, makes a substantial structure. It is usually placed in the crotch of a limb some six or eight feet from the ground, generally in a moist place, and occasionally in a really wet swamp. In a specimen of this nest before me coarse grass is the predominating material in the external parts, but in the walls twigs of spruce, bits of lichens and dried leaves are mixed with the grass and all are woven into a solid mass, very firm and strong. The lining is formed by a layer of fine grass interwoven with pieces of a black, vine-like root, all neatly laid; over these, at the bottom, is a layer of skeleton leaves. The measurements are: Depth, inside, $1\frac{7}{8}$ inches; width at mouth, $2\frac{3}{4}$ inches; outside the diameter is irregular, varying from $4\frac{1}{2}$ to 5 inches. Mr. J. W. Banks tells me that of some fifty nests of the Olive-backed Thrush that he has examined all were lined with skeleton leaves; but Mr. Harold Gilbert found one in 1878 that was lined with moose hair. This nest was built in a garden, in the suburbs of St. John, within twenty feet of the house and but an arms-length from one of the main walks. The moose hair was furnished by a tame animal kept on the grounds. The three species usually lay four eggs, but it is Mr. Banks' opinion that in extremely wet or cold seasons three more frequently complete the clutch. So eminent and excellent an authority as Dr. Coues gives four and five as the number of eggs, but we have never seen more than four in any nest obtained in this country.

The Tawny and the Hermit lay immaculate eggs of a greenish-blue color, but the eggs of the Hermit are much the paler and are also the longer and more pear-shaped. The eggs of the Olive-backed are of a bright greenish-blue ground color, not so dark as the Veery's and irregularly marked with purplish-brown spots. In some examples these spots are so large and numerous they almost entirely hide the ground color. The average measurements of the eggs are: Tawny, $.86 \times .67$; Olive-backed, $.92 \times .69$; Hermit, $.89 \times .64$. Few of our country-people are acquainted with the appearance of these birds but are familiar with

their songs which they attribute to one species called by them the "Swamp Robin;" for as in their appearance so in their song, there is to some degree a superficial resemblance; all have peculiar metallic voices and sing somewhat similar melodies. Their songs resemble each other much more than they resemble that of any other species. The Tawny ranks first in classification but the Hermit takes precedence as a vocalist. His song is the grandest; it is the finest musical composition and displays the most artistic execution, as well as the greatest compass and power of voice.

One is surprised to find so little about the songs of these Thrushes in the writings of the older ornithologists. Wilson says the Tawny has "no song" and calls the Hermit "a silent bird." Audubon never heard the song of the Hermit, and Nuttall does it but scanty justice. To my ear it is by far the finest song we hear in these Northern woods, and fully deserves the seemingly exaggerated title of "glorious," given it by some modern writers. The Winter Wren is his nearest rival and he startles the listener into admiration by the perfect torrent of sweet harmonies, of brilliant passages and marvellously executed trills, he hurls upon the stillness of the forest solitude in which he delights to roam; but, beautiful and joyous as his song is, in comparison with the song of the Hermit Thrush it sounds mechanical, and more like an air from a music box. The music of the Hermit never startles you; it is in such perfect harmony with the surroundings it is often passed by unnoticed, but it steals upon the sense of an appreciative listener like the quiet beauty of the sunset. Very few persons have heard him at his best. To accomplish this you must steal up close to his forest sanctuary when the day is done, and listen to the vesper hymn that flows so gently out upon the hushed air of the gathering twilight. You must be very close to the singer or you will lose the sweetest and most tender and pathetic passages, so low are they rendered—in the merest whispers. I cannot, however agree with Mr. Burroughs that he is more of an evening than a morning songster, for I have often observed that the birds in any given locality will sing more frequently and for a longer period in the morning than in the evening. I prefer to hear him in the evening, for there is a difference; the song in the morning is more sprightly—a musician would say "has greater brilliancy

of expression"—and lacks the extreme tenderness of the evening song, yet both have much the same notes and the same "hymn-like serenity." The birds frequently render their matinal hymns in concert and the dwellers in a grove will burst out together in one full chorus, forming a grander *Te Deum*—more thrilling—than is voiced by surpliced choir within cathedral walls. On one occasion an Indian hunter after listening to one of these choruses for a time said to me, "That makes me feel queer." It was no slight influence moved this red-skinned stoic of the forest to such a speech. The song of the Olive-backed ranks second in composition but he has the sweetest and most mellow voice of the three. The Veery displays the least musical ability yet his simple strain is exceedingly pleasant to the ear and his beautiful voice exhibits most strongly that peculiar resonant metallic tone which is characteristic of the genus.

I have not attempted to represent these songs by words or notes, for all such experiments as I have seen, appear to me to be failures. Neither the words of Dr. Brewer or Mr. Samuels, nor the syllables used by Mr. Ridgway or Mr. Gentry convey to my mind the idea of the songs of the birds that is impressed on my memory; and after a patient rehearsal of the notes of Mr. Horsford's score on piano, violin and flute, I fail to recognize the melodies he has attempted to write. Perhaps Mr. Horsford will say that, as I do not live in "a white pine country," I can know nothing about these Thrushes, and I certainly do not if his article in *Forest and Stream* is to be taken as evidence of what is correct. Besides their songs the three species have call notes and two or three minor notes, used chiefly when a mated pair are together. The alarm note of the Olive-backed, which Mr. Minot thinks sounds like "whit," and which he calls "the ordinary note" of the bird, is seldom used except the bird has a nest near the intruder. I think the sound would be better represented by "kwut" very abruptly and quickly uttered, with a peculiar emphatic intonation. But the songs and notes of all birds must be heard to be understood and appreciated.

COLEOPTERA FOUND IN THE
PROVINCE OF QUEBEC.

By WILLIAM COUPER.

- HYLOBIUS 1 pinicola, *Couper*.
2 pales, *Herbst*.
3 picivorus, *Germ*.
PISSODES 1 strobi, *Peck*.
2 nemorensis, *Germ*.
ERIRHINUS 1 rufus, *Say*.
2 ephippiatus, *Say*.
CENTRINUS 1 scutellumalbum, *Say*.
2 rectirostris, *Lec*.
SCYTHROPUS elegans, *Couper*.
GRYPIDIUS vittatus, "
DORYTOMUS 1 mucidus, *Say*.
2 brevicollis, *Lec*.
3 laticollis, "
ATTELABUS 1 rhois, *Boh*.
2 maculatus, *Prov*.
3 bipustulatus, *Fabr*.
OTIDOCEPHALUS Americanus, *Herbst*.
MAGDALINUS 1 baritus, *Say*.
2 algra, *Herbst*.
3 pandura, *Say*.
4 armicollis, "
BALANIUS 1 nasicus, "
2 rectus
ANTHONOMUS 1 quadrigibbus, "
2 tessellatus, *Walsh*.
ORCHESTES pallicornis, *Say*.
PIAZORHINUS scutellaris, "
LAEMOSACCUS plagiatus, "
CRYPTORYNCHUS 1 parochus, *Say*.
2 bisignatus, "
CONOTRACHELUS 1 crataegi, *Walsh*.
2 posticatus, *Say*.
3 nenuphar, *Herbst*.
PIAZURUS subfasciatus, *Lec*. HOMOGASTER
Quebecensis, *Prov*. falls.
MONONYCHUS vulpeculus, *Fabr*.
CENTORYNCHUS 1 septentrionalis, *Gyll*.
2 sulcipennis, *Lec*.
MEGACETES inaequalis, *Say*.
RHINOCERUS pyrrhopus, *Boh*.
BARIS confinis, *Lec*.
CALANDRA 1 granarius, *Clair*.
2 orizae, *Linn*.
3 remotepunctata, *Gyll*.
SPHENOPHORUS 1 pertinax, *Oliv*.
2 zeoe, *Walsh*.
3 l3-punctatus, *Ill*.
4 ochreus, *Lec*.
COSSONUS corticola, *Say*.
GONOTROPIS gibbosus, *Lec*.
EURYMICTER fasciatus, *Oliv*.
ARRHENODES septentrionalis, *Herbst*.

- CRATOPARIS lunatus, *Fabr*.
BRUCHUS pisi, *Linn*.
CRYPTURGUS atomus, *Lec*.
CHRYPHALUS materiarius, *Fitch*.
TRYPODENDON bivittatus, *Kirby*.
XYLEBORUS 1 pyri, *Harris*.
2 coelatus, *Trimm*.
DROCAETES septentrionis, *Mann*.
TOMICUS 1 calligraphus, *Germ*.
2 pini, *Say*.
POLYGRAPHUS rufipennis, *Kirby*.
HYLESINUS aculeatus, *Say*.
DENDROCTONUS 1 terebrans, *Lac*.
2 obesus, *Mann*.
3 rufipennis, *Kirby*.
HYLASTES 1 cavernosus, *Trimm*.
2 pinifex, *Fitch*,
3 porculus, *Er*.
PARANDRA brunnea, *Fabr*.
ORTHOSOMA brunneum, *Forst*.
TRAGOSOMA Harrisii, *Lec*.
CRIOCEPHALUS 1 agrestis, *Kirby*.
2 obsoletus, *Rand*.
GONOCALLUS collaris, *Lec*.
BATYLE suturalis, *Say*.
TETROPIUM cinnamopterum, *Kirby*.
DULARIUS brevilineus, *Say*.
RHOPALOPUS sanguipicollis, *Horn*.
HYLOTRUPES 1 bajulus, *Linn*.
2 ligneus, *Fabr*.
PHYMATODES dimidiatus, *Kirby*.
MERION proteus, *Kirby*.
ASEMUM moestum, *Hald*.
SPONDYLUS upitiformis, *Mann*.
CALLIDIUM 1 violaceum, *Muls*.
2 janthinum, *Lec*.
CHION garganicum, *Fabr*.
ELAPHIDION 1 incertum, *Newm*.
2 unicolor, *Rand*.
MOLORCHUS bimaculatus, *Say*.
CYLLENE pictus, *Drury*.
GLYCOBIUS speciosus, *Say*.
CALLOIDES nobilis, *Say*.
ARHOPALUS fulminans, *Fabr*.
CLYTUS 1 marginicollis, *Say*.
2 hamatus, *Say*.
3 longipes, *Kirby*.
PSENO CERUS supernotatus, *Lec*.
XYLOTRECHUS 1 colonus, *Fabr*.
2 sagittatus, *Germ*.
3 quadrimaculatus, *Hald*.
4 undulatus, *Say*.
5 armosus, *Say*.
NEOCLYTUS 1 muricatus, *Kirby*.
2 erythrocephalus, *Fabr*.

(Continued from page 196.)

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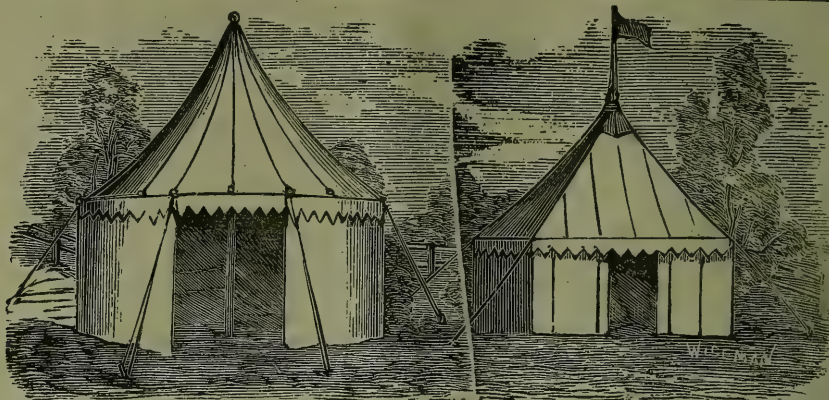
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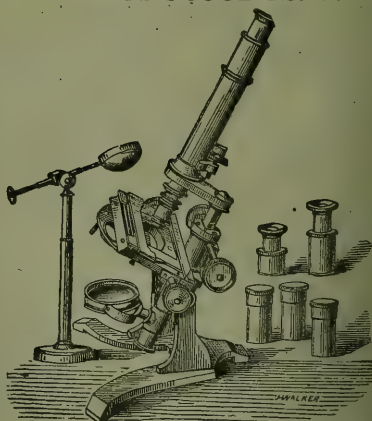
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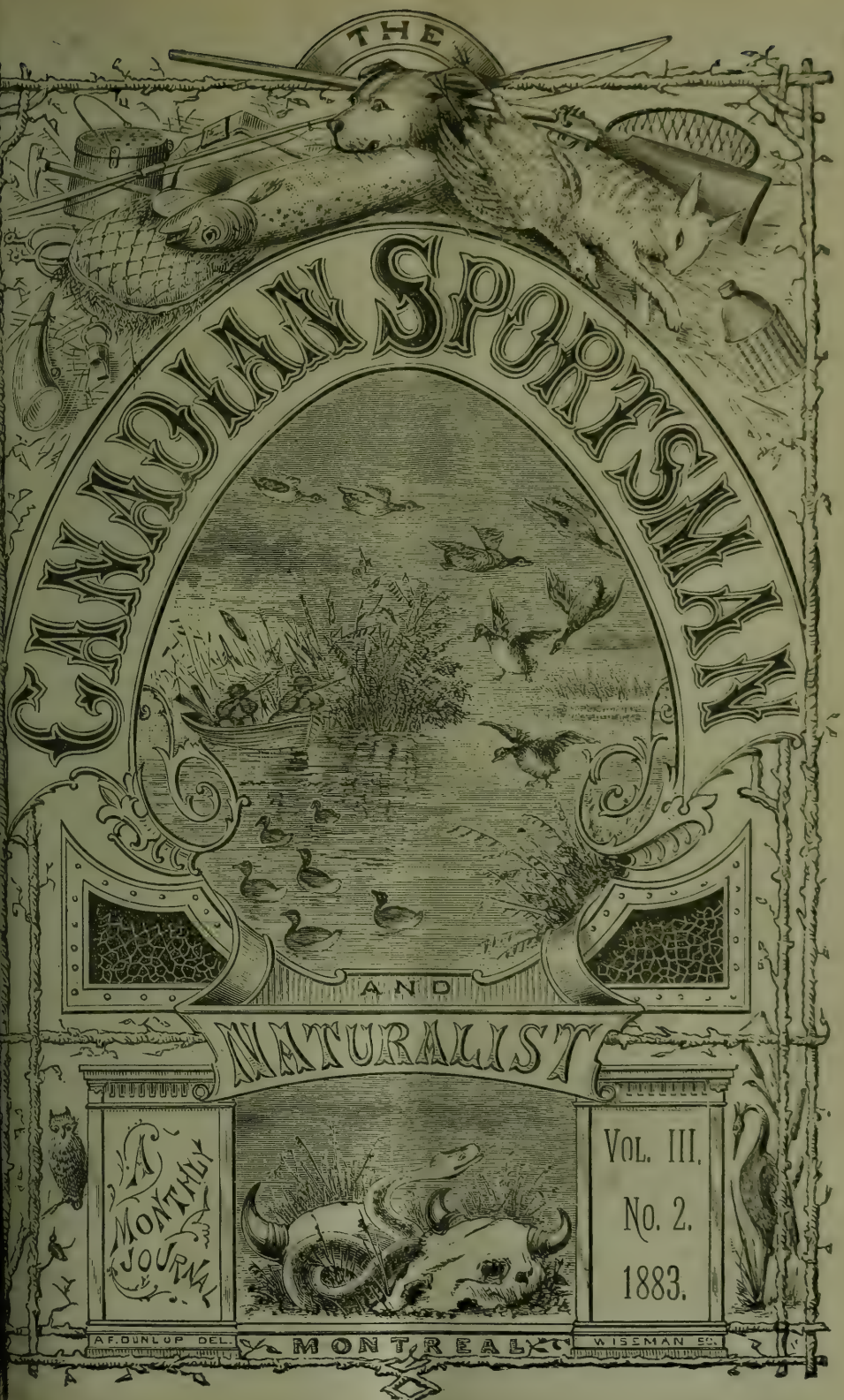
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A
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No. 2.
1883.

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No. 2.

MONTREAL, FEBRUARY, 1883.

VOL. III.

WILLIAM COUPER, Editor.

Subscribers, please notice that the pages of "The Canadian Sportsman and Naturalist" are to be consecutive until the end of the third volume, when we will supply an index.

PROPOSED CONVENTION OF CANADIAN SPORTSMEN.

In Vol. II., No. 9, of this journal, in concluding our remarks on the Forestry Congress we stated that the next good move should be a Congress of American and Canadian sportsmen to provide correct means for the protection of Fish and Game of both countries. There are several interesting subjects which may be discussed at meetings of true sportsmen—such as the effect of forest fires causing the decrease of animals; fish and game protection in an American and Canadian view; harmonizing the game laws of the Provinces; correct nomenclature of the game animals and other kindred subjects. American sportsmen have a greater interest according to numbers and position in taking part in a Congress of this nature than we have; besides, there is something congenial in a meeting of true sportsmen; all have the same objects in view. We at least protect the bulk of woodcock and snipe bred in the north, more for the benefit of our neighboring sportsmen than our own. We do the same with geese and ducks, classed as game occurring on the waters of both countries.

At the suggestion of several of the leading sportsmen of each Province, a Committee consisting of Mr. F. J. Boswell, Major H. R. Smith and Mr. W. A. Allan has been formed for the purpose of holding, if possible, a representative convention of the sportsmen of the Dominion to consider the present anomalous condition of the game laws, and, if thought advisable, to take immediate action with a view of doing away with market shooting by foreigners, and the export of game, and for the discussion of other matters of interest to lovers of sport. At a meeting of the Central Committee (held at Ottawa) it was resolved:

"That the Secretary be instructed to issue a circular requesting some leading sportsman to

call a meeting of the sportsmen in each county in the Dominion for the purpose of electing a delegate to attend a general convention, to be held in the city of Ottawa, on Easter Monday, the 26th of March."

The objects of the above named sportsmen are exactly what our remarks referred to in the issue of the "C. S. and N." last September, but we fear that the time stated for calling a convention of the sportsmen of the Dominion is too limited, even to secure a thoroughly representative meeting from the counties in the Provinces of Ontario and Quebec; but even should these two Provinces be well represented, a good beginning will be made, offering some encouragement in the first attempt to bring the lovers of the rod and gun together to discuss these matters.

We are in favour of American sportsmen taking part in this convention, nationality having nothing to do with sporting matters, as far as we can see. There is quite a difference between a man shooting for the purpose of supplying a foreign market and a gentleman visiting Canada for legitimate sport and recreation. These and many other points will no doubt be discussed at the convention, the result of the labors of which will be looked forward to with interest by all sportsmen.

MONTREAL MICROSCOPICAL SOCIETY.

The monthly meeting of this society was held at the Natural History Society's Rooms, on Monday evening, 12th instant, Mr. Wm. Muir in the chair.

There was a good attendance, and a number of microscopes were on the table. Mr. G. J. Bowles was elected a member of the society.

The subject for the evening, "Insect weapons," was opened by a paper from Mr. Edward Murphy, who dealt more particularly with the proboscis of the mosquito. Mr. Murphy illustrated his remarks with drawings on the blackboard, showing the parts as seen by him under the microscope. He was followed by Mr. Wm. Muir, on the same subject, after which a discussion arose as to whether this insect had poisonous glands or not. Dr. Geo. Wilkins, in the absence of Dr. Osler, exhibited an apparatus for counting the corpuscles in blood, and gave an illustration under the microscope with blood drawn from a member present.

MONTREAL BRANCH, ENTOMOLOGICAL SOCIETY OF CANADA.

The ninety-fourth meeting of the society was held at the residence of the President, Mr. H. H. Lyman, on Tuesday evening, 13th instant.

The President read an interesting and valuable paper on the genus *Callimorpha*, illustrating his remarks by a large collection of the species, and by drawings of the types in the British Museum, made by Mr. Butler, of that institution. We venture to say that the confusion heretofore existing with regard to this variable genus is likely to be got rid of through Mr. Lyman's careful and thorough work, with the assistance of Mr. Caulfield. Mr. G. J. Bowles read a "Preliminary List of the Geometridæ of the Province of Quebec," opening up interesting questions as to the limits of the northern and temperate insect faunæ of Canada. A third paper was read, entitled "Notes on some diurnal Lepidoptera occurring in Canada," by Mr. Caulfield, giving Canada as the habitat of a number of species of butterflies not stated in W. H. Edwards' catalogue as being found in this country.

THE TOMMY COD.

In "L'Opinion Publique" of the 18th January last, is an article on the Tommy Cod, *Morhua pruinosa*, Mitchell, by the eminent French-Canadian *litterateur*, M. Benjamin Sulte. He gives an interesting account of the fishery carried on annually in the vicinity of Three Rivers, and supplies data which disprove the common idea that it is the young of the cod. But little is known of the history of this little fish, although it has been an important article of food in Lower Canada "from time immemorial," so that new information with regard to it is interesting, both to the naturalist and the public.

Mr. Sulte states that the Tommy cod ranges from Newfoundland to Three Rivers, but it is much more widely distributed, being found on the coast of New York, and no doubt on that of New England, if not farther east. DeKay tells us that it ascends the Hudson as far as Albany, where it is abundant at intervals of a few years. On the Long Island coast it is sometimes so plentiful that it can be shovelled on to the shore from the shallow water. It goes up the Hudson, as it does the St. Lawrence, at the beginning of winter, and is there called the Tom Cod or Frost-fish. It is one of these fishes, apparently, which inhabit waters of no great depth, and, except during the an-

nual migration, remains in salt water the whole year. All through the summer it may be caught on the shores of the lower St. Lawrence. The writer has often fished for them, from July to September, from the wharf at Rivière du Loup, and the rocks between there and Cacouna. They come up in great numbers with the rising tide, and like the ordinary cod, are voracious feeders, taking almost anything in the shape of bait. In December, however, they ascend to fresh water, reaching Quebec and Three Rivers about Christmas, the fishery lasting until about the 10th January. At Quebec they turn into the estuary of the River St. Charles with every tide, and the ice is dotted over with a village of *cabanes*, set up to shelter the fishers, who gather a large harvest while the migration lasts. Multitudes, however, go past Quebec, continuing their progress along the North Shore until they reach Three Rivers, but pay a heavy tribute to the *habitans* on the way. At Three Rivers they go up the St. Maurice river in shoals, as far as the rapids of the Forges, after which all trace of them is lost. We are not aware whether they have been taken above Lake St. Peter.

Strange to say, on passing out of tide water they swim near the surface, contrary to their usual habit of swimming near the bottom. This peculiarity gives the *habitans* an opportunity of taking them in great numbers. Large frames six feet high and two or three feet square, filled in with wickerwork, and open on one side some distance from the bottom, are plunged in through holes cut in the ice. The opening in the frame is placed towards the advancing shoals, and the trap is soon withdrawn, filled with the writhing tommy cods. In this way they are secured by the sleighload. On the St. Maurice, cabins are built, in which the fisherman eats and sleeps, waging war on the "*petits morues*" until they cease to pass. None are caught on their return. They seem to scatter and seek the deeper parts of the river, and the fishery is over, in fresh water at least, until the following December.

It has been stated above, that doubts have been entertained as to whether this fish is a distinct species from the Cod. Even experienced naturalists have had these doubts. But the facts above given seem to make the matter a certainty. The annual migration into fresh water (although contrary to the general habit of the cod family, as far as known) must be for the purpose of spawning. The fish, when

taken in winter, are full of eggs, and ready to propagate, and instinct drives them up into fresh water for that purpose. On the St. Lawrence, they ascend the tributary rivers on the North Shore with this end in view, but in some of them, at least, they cannot penetrate very far. They can go only a few miles up the St. Charles at Quebec, and in the St. Maurice there are falls about fifteen miles up which would bar their progress. Some of the other rivers between Three Rivers and Quebec may be more accessible to them. The conditions under which the spawn is deposited are, however, unknown.

Mr. Sulte says that the Tommy Cod has been an article of food in Canada ever since the French colonists arrived, and no doubt it was relished by the Indians long before that time. No diminution in the supply has been noticed. To-day the quantities used, principally by the French-Canadian population, are very great, and as Jack Frost comes to help, and preserves the fish in the best manner possible, none of this valuable food supply is wasted.

H. K. C.

BIRDS OF WESTERN ONTARIO.

SIR,—Since the appearance of your January number I have been requested to explain two points in the list of Birds of Western Ontario, and have pleasure in doing so: 1st.—As regards the common Tern, it appears in the Hamilton list as *Sterna Wilsoni*, and in the London list as *Sterna fluviatilis*, both names were taken from the Smithsonian catalogue, but were taken at different dates, and the name had been changed in the interval. To be strictly correct in following the Smithsonian nomenclature, we should drop the *Wilsoni* and adopt the *fluviatilis* as being the most recent, and let us hope that there will soon be an end of these frequent changes in specific names which are so perplexing to the student. 2nd.—As regards the large Rails, the specimen referred to in the Hamilton list was brought me by a local sportsman who said it was the only one of the kind he had ever seen here, but he had often shot them at Baptiste Creek; that they bred there; this was to all appearance the Clapper Rail, as the measurement as also the bleached-worn appearance of the plumage agreed with the descriptions given of that species, and the entry was made for the list in accordance with these facts. Whether I was strictly correct or not in the identification will probably not be known, as the specimen referred to was lost, and neither of the

large rails has been found here since that time; the one which breeds at Baptiste Creek and the St. Clair marshes is the king rail, *Rallus elegans*.

I have to record the capture within the past ten days of a second specimen of the Barn Owl, *Strix flammea*; this was a female shot at a farm-house near Dundas, about four miles from where the other was obtained. It is quite possible that this pair may have left their home in the south in company, bent on a voyage of discovery; if so, they have met the fate which frequently befalls adventurers in new countries, viz.: been skinned by the natives.

Pine grosbeaks have been very abundant round the city since the middle of January; they are nearly all in the grey plumage, being either females or immature males. The appearance of these birds in such numbers may be taken as an indication of the severity of the winter in the north as I have not heard of their being here at all for many years past.

Your truly, T. MCLLWRAITH.

Cairnbrae, Hamilton, O., 14th Feb., 1883.

CROW BLACKBIRDS.

Your correspondent in the January No. of the "C. S. & N.," Mr. Ernest D. Wintle, probably refers to but one species of grackle in his remarks under the above caption. The Boat-tailed Grackle is a Southern species, not yet recorded as found in Canada, I believe. The Purple Grackles are abundant in Canada, and the "boat-like" spreading of the tail may be commonly observed during the love season of these birds, when the males thus display themselves, both on the wing and strutting upon the ground. I have often watched these grackles in the city of Three Rivers, P. Q., where they breed abundantly, and being unmolested there, are very tame, feeding upon the streets and in gardens. The males are larger and of handsomer plumage than the females, and the contrast is quite noticeable.

The Rusty Grackle, a smaller species is also found in Canada, but Mr. Wintle's remarks will not apply to this bird.

The Boat-tailed Grackle exceeds in size the Purple Grackle, especially in length, and would never be confounded with any of our smaller North American Grackles. In my catalogue of the "Birds of Maine" I have recorded a single occurrence of the Boat-tailed Grackle in this State, and I do not know of any other record of the species occurring so far north.

Portland, Maine. EVERETT SMITH.

In answer to Mr. Wintle's query in the January No., I have been misled by the same bird, *Quiscalus purpureus*, but seeing one approaching with his tail spread one day when I was shooting, I took him in the act, and of course he proved to be merely an ordinary crow blackbird. Q. major inhabits the South Atlantic and Gulf States, never ascending to New England, and is strictly maritime.

W. E. SAUNDERS.

We have only one species of Crow Blackbird in Canada (*Quiscalus purpureus*). The peculiar spreading of the tail sometimes noticed in the males of this species has led to their being confounded with the Boat-tailed Grackle (*Quiscalus major*), which is a larger and more southern species. The Bronzed Grackle first described by Ridgway as a subspecies (*Quiscalus purpureus æneas* Ry), also occurs here, being associated with *purpureus* throughout the whole range of the latter. The difference between the two birds appears to be only a matter of color, and as the Bronzed is not confined to any particular locality, many ornithologists do not recognize it as a geographical variety.

Montreal.

W. W. DUNLOP.

FROM BULL. NUTT. ORN. CLUB. Vol. VII, No. 4.
Oct., 1882.

LIST OF BIRDS ASCERTAINED TO
OCCUR WITHIN TEN MILES FROM
POINT DE MONTS, PROVINCE OF
QUEBEC, CANADA; BASED CHIEFLY
UPON THE NOTES OF NAPOLEON
A. COMEAU.

BY C. HART MERRIAM, M. D.

Point de Monts is the southward termination of a high rocky promontory that separates the river from the Gulf of St. Lawrence, on the north shore. It is in latitude 49° 19' north. The country is well wooded, the forests consisting chiefly of spruce (both white and black) and balsam. Scattered about are a few birches, poplars, cedars, and tamaracks; and on a sandy terrace near the Godbout River is a quantity of the northern scrub pine (*Pinus banksiana*) that here attains a height of thirty and sometimes forty feet. The region is so far north that not only are the oaks and hickories absent, but even the hardy beech and maple do not grow here.

I visited this section of the coast in July, 1881, and again in July, 1882; and with the observations made at these times I have in-

corporated the notes kindly placed at my disposal by Mr. Napoleon A. Comeau, guardian of Godbout.

The nomenclature followed is that of the second edition of Dr. Coates's Check List of North American Birds.

1. *Turdus migratorius*; Robin. A common summer resident. Arrives about the first of May, and remains till late in November. Seen Dec. 22, 1879.
2. *Turdus unalasce nanus*; Hermit Thrush. Tolerably common; breeds.
3. *Turdus ustulatus swainsoni*; Olive-backed Thrush. Not uncommon; breeds.
4. *Sialia sialis*; Blue-bird. Extremely rare. During a residence of many years at Godbout, Mr. Comeau has seen but one pair of these birds; they nested in a stump near his house in July, 1880.
5. *Regulus calendula*; Ruby-crowned Kinglet. A male was shot June 4, 1882.
6. *Parus atricapillus*; Black-capped Chickadee. A common resident.
7. *Parus hudsonicus*; Hudsonian Chickadee. A common resident, like the last.
8. *Sitta canadensis*; Red-bellied Nuthatch. Tolerably common in winter, but not observed in summer.
9. *Eremophila alpestris*; Horned Lark. First seen April 21, 1882, after which they were common for about three weeks and then disappeared. I found a young one, dead, at Godbout in July, 1881.
10. *Anthus ludovicianus*; Titlark. Tolerably common summer resident, and doubtless breeds. I have seen flocks of them in July feeding on the beach at low water. First seen May 7, 1882.
11. *Helminthophila peregrina*; Tennessee Warbler. A tolerably common summer resident. First shot June 6, 1882.
12. *Dendraea aestiva*; Summer Warbler. Not very common. First seen June 6, 1882.
13. *Dendraea virens*; Black-throated Green Warbler. A tolerably common summer resident.
14. *Dendraea coronata*; Yellow-rumped Warbler. A rather common summer resident. First seen May 29, 1882.
15. *Dendraea blackburne*; Blackburn's Warbler. Rather rare. Shot June 9, 1882.
16. *Dendraea striata*; Black-poll Warbler. Rare. Mr. Comeau shot a male, June 7, 1882.
17. *Dendraea maculosa*; Black-and-Yellow Warbler. The commonest Warbler, breeding abundantly. Earliest seen May 29, 1882.
18. *Sialurus naevius*; Water Thrush. Rather rare. Shot June 6, 1882. Others seen.
19. *Geothlypis trichas*; Maryland Yellow-throat. Not common. Saw two in the clearing about Mr. Allan Gilmour's camp on the Godbout.
20. *Myiodiotes pusillus*; Black-capped Yellow Warbler. Rather rare. Shot June 9, 1882. Others seen.
21. *Myiodiotes canadensis*; Canadian Flycatching Warbler. A tolerably common summer resident.
22. *Setophaga ruticilla*; Redstart. Tolerably common. First seen June 9, 1882.

23. *Hirundo erythrogastra horreorum*; Barn Swallow. Rare, and not known to breed. Mr. Comeau shot one May 23, 1882.

24. *Iridoprocne bicolor*; White-bellied Swallow. Common; breeds plentifully. First seen May 12, 1882.

25. *Petrochelidon lunifrons*; Cliff Swallow. A small colony nested in the deserted Hudson's Bay Trading Post at Godbout this year.

26. *Ampelis cedrorum*; Cedar-bird. A tolerably common summer resident.

27. *Lanius borealis*; Great Northern Shrike. Occurs, but is not known to breed.

28. *Pinicola enucleator*; Pine Grosbeak. A tolerably common resident. In autumn it feeds extensively upon the berries of the mountain ash. I have already published a note on the breeding of this species at Godbout.*

29. *Carpodacus purpureus*; Purple Finch. Not very common. First seen April 26, 1882.

30. *Loxia leucoptera*; White-winged Crossbill. Tolerably common, but somewhat irregular in appearance. I found this species to be very abundant here in July, 1881, while in July, 1882, I did not see any.

31. *Ægiothys linaria*; Red-poll. Very abundant in winter, large flocks being seen nearly every day. They all seem to move in one direction, following the shore westward.

32. *Chrysomitris pinus*; Pine Linnet. Generally common, but somewhat irregular.

33. *Astragalinus tristis*; American Goldfinch. Rather rare. I saw a small flock in July, 1882.

34. *Plectrophanes nivalis*; Snow Bunting. Very common in flocks in winter. Seen as late as the middle of May.

35. *Centrophean lapponicus*; Lapland Longspur. Large flocks of this species appear on this part of the coast during the latter part of April, remaining till about the middle of May. They are then very abundant, occurring both alone and in flocks with the preceding.

36. *Passerculus sandvicensis savanna*; Savanna Sparrow. Tolerably common, breeding on the thinly grassed sandfields about the mouth of the Godbout. Mr. Comeau shot one as early as April 21, 1882.

37. *Melospiza fasciata*; Song Sparrow. A rather common summer resident in suitable places, arriving early in May. Particularly numerous in the clearing about Mr. Allan Gilmour's camp on the Godbout.

38. *Junco hiemalis*; Black Snowbird. Very common. First seen May 16, 1882.

39. *Zonotrichia albicollis*; White-throated Sparrow. The commonest Sparrow, breeding everywhere. First seen May 14, 1882. This bird is the "Nightingale" of the Canadians.

40. *Zonotrichia leucophrys*; White-crowned Sparrow. Breeds, but is not common.

41. *Agelaius phoeniceus*; Red-shouldered Blackbird. Very rare. The only one ever seen here was a female, and was shot by Mr. Comeau May 22, 1882.

42. *Xanthocephalus icterocephalus*; Yellow-headed Blackbird. An accidental straggler from the west. Mr. Comeau shot a male of this species in his door yard, at Godbout, early in September, 1878.†

43. *Quiscalus purpureus*; Crow Blackbird. Rare. Sometimes seen in flocks in spring.

44. *Corvus corax*; Raven. A common resident. May 12, 1882, Mr. Comeau found one of their nests on the face of a cliff about half-way between Godbout and Point de Monts. It contained four full-fledged young that must have been at least three or four weeks old.

45. *Corvus frugivorus*; Crow. A common summer resident, sometimes wintering. I have observed that the Crows here find much of their food along the beach at low water.

46. *Cyanocitta cristata*; Blue Jay. Resident but not very common.

47. *Perisoreus canadensis*; Canada Jay. A tolerably common resident.

48. *Tyrannus carolinensis*; King-bird. Not rare. Earliest seen June 9, 1882.

49. *Empidonax flaviventris*; Yellow-bellied Flycatcher. I have seen a specimen that Mr. Comeau shot June 15, 1882.

50. *Chordeiles popetue*; Night-hawk. A common summer resident. First seen June 5, 1882. I saw Night-hawks flying about overhead nearly every day while at Godbout, both in July, 1881, and July, 1882.

51. *Chatura pelagica*; Chimney Swift. Generally tolerably common, but not seen this year.

52. *Ceryle alcyon*; Belted Kingfisher. A rather common summer resident, arriving about the first of May. About June 13, 1882, Mr. Comeau found three Kingfisher's nests in a bank, and each contained seven fresh eggs.

53. *Hylotomus pileatus*; Pileated Woodpecker. Very rare. Mr. Comeau has shot but one here.

54. *Picus villosus*; Hairy Woodpecker. A tolerably common resident, being particularly fond of the burnt-over scrub-pine barren near Godbout.

55. *Picus pubescens*; Downy Woodpecker. A tolerably common resident, like the last.

56. *Picoides arcticus*; Black Three-toed Woodpecker. Resident; not rare.

57. *Colaptes auratus*; Golden-winged Woodpecker. A tolerably common summer resident. First seen May 14, 1882.

58. *Bubo virginianus*; Great Horned Owl. A rather common resident.

59. *Asio wilsonianus*; Long-eared Owl. Rare. Mr. Comeau shot three in May, 1877 or 1878.

60. *Asio accipitrinus*; Short-eared Owl. A rather rare summer resident. Earliest seen May 9, 1882.

61. *Strix nebulosa*; Barred Owl. A tolerably common resident.

62. *Nyctea scandiaca*; Snowy Owl. Very irregular in appearance; sometimes very abundant in winter, and sometimes not seen for several years. Mr. Comeau shot one May 17, 1882, and Mr. Gregoire Labrie killed one May 31, 1880. These are the latest dates at which they have been seen in this section.

63. *Surnia funerea*; Hawk Owl. Common in winter, generally appearing in November and not remaining later than February.

64. *Nyctala tengmalmi richardsoni*; Richardson's Owl. A common winter resident, and very tame. This Owl has a low liquid note that resembles the sound produced by water slowly dropping from a height; hence the Montagne Indians call it *pillip-pile-tshish*, which

* See this Bulletin, Vol. VII, pp. 120, 121.

† See this Bulletin, Vol. VI, p. 246.

means "water-dripping bird." These Indians have a legend that this was at one time the largest Owl in the world, and that it had a very loud voice. It one day perched itself near a large waterfall and tried not only to imitate the sound of the fall but also to drown the roaring of the torrent in its own voice. At this the Great Spirit was offended and transformed it into a pigmy, causing its voice to resemble slowly dripping water instead of the mighty roar of a cataract.

65. *Nyctala acadica*; Saw-whet Owl. Not very common. In winter Mr. Comeau once saw one of these little Owls fly out from within the carcass of a great northern hare that had been caught in a snare. The Owl had eaten away the abdomen and was at work within the thoracic cavity when frightened away.

66. *Circus cyaneus hudsonius*; Marsh Harrier. A tolerably common summer resident. Three individuals were seen as early as May 5, 1882.

67. *Astur atricapillus*; Goshawk. Not rare.

68. *Falco sacer obsoletus*; Labrador Gyrfalcon. Mr. Comeau has killed several of these rare Falcons in the vicinity of Godbout.

69. *Falco columbarius*; Pigeon Hawk. Not rare, and doubtless breeds.

70. *Falco sparverius*; Sparrow Hawk. Rare. One shot May 5, 1882.

71. *Archibuteo lagopus sancti-johannis*; Rough-legged Buzzard. Breeds, and is rather common. The southward migration commences about the last of September and continues into November. During this period large numbers of these Hawks are constantly passing over this part of the coast on the way to their winter quarters.

72. *Pandion haliaetus*; Fish Hawk. A few pairs of Fish Hawks breed in this vicinity every year. They were first seen May 2, 1882. They depart in November.

73. *Aquila chrysaetus*; Golden Eagle. Breeds, and is not particularly rare. Mr. Comeau has shot three, and knows of half a dozen that were caught in steel-traps.

74. *Haliaetus leucocephalus*; White-headed Eagle. Tolerably common; breeds. They arrive in March, and remain till December or January. Mr. Comeau found a nest, early in June, that contained three young about the size of Crows.

75. *Ectopistes migratorius*; Wild Pigeon. A rather rare and very irregular visitor.

76. *Zenaidura carolinensis*; Carolina Dove. Of this southern species Mr. Comeau has killed two at Godbout; the first, a male, he shot October 10, 1881, and the second, a female, June 6, 1882.

77. *Canace canadensis*; Spruce Grouse. A resident species, but rather rare.

78. *Bonasa umbella*; Ruffed Grouse. A resident, like the last, but not common. This appears to be the northern limit of the Grouse on the east coast, and I was unable to find any evidence of its presence lower down along the north shore of the gulf.

79. *Lagopus albus*; Willow Ptarmigan. Very abundant during the early part of some winters, but during other years it does not occur at all. They generally arrive about the first of December, and a few remain till the first of May. They are always most abundant in December, and Mr. Comeau once killed six hundred before Christmas! He has shot as many as eighty-two in a single morning.

80. *Squatarola helvetica*; Black-bellied Plover. Rather rare and irregular in occurrence. Mr. Comeau has shot it in May and September.

81. *Charadrius dominicus*; Golden Plover. Tolerably common in September, and sometimes seen in spring.

82. *Agialites vociferus*; Kildeer Plover. Mr. Comeau says that this species breeds and is not rare.

83. *Agialites semipalmatus*; Ring-neck. Occurs in spring.

84. *Streptilas interpres*; Turnstone. Tolerably common in September.

85. *Steganopus wilsoni*; Wilson's Phalarope. Mr. Comeau tells me that this Phalarope occurs during the fall migration, but is not common.

86. *Phalaropus fulicarius*; Red Phalarope. Not rare in September.

87. *Gallinago wilsoni*; Snipe. A rather rare migrant. Earliest killed May 9, 1882.

88. *Macrorhamphus griseus*; Red-Breasted Snipe. Occurs during the fall migration.

89. *Ereunetes pusillus*; Semipalmated Sandpiper. Tolerably common. First seen during the latter part of May, and common in August and September.

90. *Actodromas minutilla*; Least Sandpiper. Rather common in spring and fall.

91. *Actodromas maculata*; Pectoral Sandpiper. Occurs in fall, but is not common.

92. *Actodromas bonapartii*; White-rumped Sandpiper. Mr. Comeau shot one May 31, 1882.

93. *Calidris arenaria*; Sanderling. Occurs in the fall migration.

94. *Totanus melanoleucus*; Greater Tattler. Common spring and fall. Earliest shot May 9, 1882. Passes south in September.

95. *Totanus flavipes*; Yellow-shanks. Common during the migrations. Occurs with the preceding.

96. *Rhyacophilus solitarius*; Solitary Tattler. Tolerably common, breeding about the fresh water lakes and streams.

97. *Tringoides macularius*; Spotted Sandpiper. A tolerably common summer resident.

98. *Numenius borealis*; Eskimo Curlew. Common in August and September.

99. *Numenius hudsonius*; Hudsonian Curlew. Rather rare. Mr. Comeau has shot it in August.

100. *Ardea herodias*; Great Blue Heron. Rather rare, and generally seen in September.

101. *Ardea egretta*; Great White Egret. Accidental straggler from the south. One seen June 9, 1882, on an island in Godbout River.

102. *Botaurus mugilans*; American Bittern. Rare. Mr. Comeau has shot several here, and tells me that they are common at Manacougan, thirty miles west of Godbout.

103. *Cygnus* sp.—? A swan was shot at Point de Monts by an indian in 1870.

104. *Chen hyperboreus*; Snow Goose. Rare. Mr. Comeau has shot it in October.

105. *Bernicla brenta*; Brant Goose. Breeds, and is by no means rare. Arrives in April, remaining into November and sometimes December.

106. *Bernicla canadensis*; Canada Goose. A common migrant, arriving during the latter part of March and departing in November. They breed at Natashquan, Western Labrador.

107. *Anas obscura*; Black Duck. A tolerably common summer resident, breeding about the fresh water lakes.
108. *Dasia acuta*; Pintail. The only one Mr. Comeau ever saw here he shot June 7, 1882.
109. *Querquedula carolinensis*; Green-winged Teal. Rare here, but they breed at Manacougan.
110. *Querquedula discors*; Blue-winged Teal. Rare, but oftener seen than the preceding. Has been shot early in May.
111. *Fuligula affinis*; Scaup Duck. Tolerably common in October.
112. *Fuligula collaris*; Ring-neck Duck. Mr. Comeau has killed two in spring.
113. *Clangula glaucum*; Golden-eye. A resident species, and tolerably common. Breeds on fresh water only. Remains throughout the winter.
114. *Clangula islandica*; Barrow's Golden-eye. A common resident, breeding, like the foregoing on fresh water, and remaining on the Gulf all winter.
115. *Clangula albeola*; Butter-ball. Rare. Has been shot in October.
116. *Harelda glacialis*; Old Wife. Resident. Very abundant in winter, the largest flocks being seen in December, January, and February. Mr. Comeau took one in full summer plumage as early as April 23, 1882. Tolerably common in summer, and supposed to breed.
117. *Histrionicus minutus*; Harlequin Duck. Rare, and only seen during the latter part of April and early in May. This year Mr. Comeau saw two April 16, and shot one May 8, out of a flock of four.
118. *Somateria mollissima*; Eider Duck. A permanent resident, but rather rare.
119. *Somateria spectabilis*; King Eider. Rare. Has been known to breed.
120. *Edemia americana*; Black Scoter. Common from early in April till some time in November. They do not remain through the winter.
121. *Edemia fusca*; Velvet Scoter. A common resident. The largest flocks are seen in April and November, and the species is common all the year round.
122. *Edemia perspicillata*; Surf Duck. Very common from April to November, but does not winter. The males greatly preponderate over the females in this species, and Mr. Comeau tells me that the proportion is always about seven males to one female.
123. *Mergus merganser*; Shelldrake. Tolerably common, breeding about the fresh water.
124. *Mergus serrator*; Red-breasted Merganser. Very common, frequenting both fresh and salt water.
125. *Sula bassana*; Gannet. Occasional. I have found it breeding in numbers at the west end of Anticosti, but do not think it nests farther up in the Gulf.
126. *Phalacrocorax carbo*; Common Cormorant. Rare, but Mr. Comeau has shot several here.
127. *Phalacrocorax dilophus*; Double-crested Cormorant. Mr. Comeau shot a female May 19, 1882.
128. *Stercorarius pomatorhinus*; Pomatorhine Jaeger. Rare.
129. *Stercorarius parasiticus*; Parasitic Jaeger. Rather rare. Mr. Comeau shot six in one day about the middle of May, 1874.
130. *Larus glaucus*; Glaucous Gull; Ice Gull. Rather rare. Usually seen in February, March, and April. I have a handsome male which was shot by Mr. Comeau April 29, 1882.
131. *Larus leucopterus*; White-winged Gull. Not common. Commonly appears and disappears with the last. Mr. Comeau has shot it as late as May 1.
132. *Larus marinus*; Great Black-backed Gull. Breeds, and is tolerably common. It is absent only in January and February. July 17, 1882, I found one of their nests on Great Baule, one of the Seven Islands. It consisted of a little coarse grass placed in a slight depression in the rock, and was lined with a sort of pad, about four inches in diameter, of beautiful soft down, on which reposed a single egg. The egg had been incubated, but failed to hatch.
133. *Larus argentatus smithsonianus*; Herring Gull. Very abundant, breeding plentifully on suitable rocks. Arrives about the middle or latter part of April, remaining into November.
134. *Rissa tridactyla*; Kittiwake. Breeds abundantly. Arrives late in April or early in May, remaining into December. This and the preceding are the commonest Gulls along this part of the coast, and are constantly seen, both singly and in immense flocks. They follow the receding tide and cover the sand flats that are exposed at low water, feeding upon the molluscs and other marine animals that abound in such situations. I have seen more than a thousand at one time.
135. *Pagophila eburnea*; Ivory Gull. Very rare. Mr. Comeau shot a male in April, 1877, at Point de Monte. The specimen was presented to the Museum at Bersimis Mission, where it is now preserved.
136. *Chroicocephalus philadelphia*; Bonaparte's Gull. A tolerably common summer resident, arriving late in May.
137. *Sterna macrura*; Arctic Tern. Very abundant at certain places, where it breeds. Mr. Comeau once killed sixteen at one shot, flying. It arrives early in June.
138. *Cymochorea leucorrhoa*; Leach's Petrel. Common in summer.
139. *Colymbus torquatus*; Loon. Common. Breeds about the fresh-water lakes of the interior. I saw many, and heard others, in the Gulf, near Point de Monte, in July. Earliest seen April 12, 1882.
140. *Colymbus septentrionalis*; Red-throated Diver. Common, breeding with the last, but not arriving so early, usually coming in May.
141. *Podiceps griseigena holbaelli*; Red-necked Grebe. Rare; one shot in September.
142. *Podilymbus podiceps*; Dab-chick; Hell Diver. Not rare; killed both spring and fall.
143. *Fratereula arctica*; Puffin; Sea Parrot. Not common as far up as Point de Monte, but very abundant on the Mingan Islands, where they breed by thousands.
144. *Alle nigricans*; Dovekie. Very abundant in flocks during some winters, arriving early in December and remaining till some time in February. During other winters it is rare or does not occur at all.
145. *Uria grylle*; Black Guillemot; Sea Pigeon. A common resident, breeding not only here, but even on the islands off the mouth of the Saguanay, an hundred and fifty miles farther up the St. Lawrence.
146. *Lonvia troile*; Foolish Guillemot; Murre. Like the Dovekie, the Murre is sometimes very abundant here in winter, while during other winters it does not occur at all. It is not wary, and does not even know enough to keep out of the way of dogs along the shore. It is well named the "Foolish" Guillemot, for both its habits and appearance deserve this appellation. In fact it looks like a perfect idiot, swimming over on one side as if one leg were broken, and staring vacantly at its enemies without attempting to escape. Its *tout ensemble* is stupid and gawky.

During the winter of 1875 they were so exceedingly abundant that Mr. Comeau shot about a thousand for their feathers, and his dog caught over fifty. They were all in very poor flesh, some being little more than animated skeletons, and a great many died and were washed ashore.

147. *Utamania torda*; Razor-billed Auk. Not common here, but breeds on the Mingan Islands.

COLEOPTERA FOUND IN THE PROVINCE OF QUEBEC.

By WILLIAM COUPER.

- CLYTANTHUS *uricola*, *Oliv.*
 CYRTOPHORUS *verrucosus*, *Oliv.*
 EUDERES *picipes*, *Fabr.*
 DESMOCERUS *palliatius*, *Forst.*
 STENOCORUS *lineatus*, *Oliv.*
 CENTRODERA *decolorata*, *Harris.*
 RHAGIUM *lineatum*, *Oliv.*
 TOXOTUS 1 *Schaumii*, *Lec.*
 2 *vittiger*, *Rand.*
 PACHYTA 1 *monticola*, *Rand.*
 2 *litrata*, *Kirby.*
 ANTHOPHILAX 1 *attenuatus*, *Hald.*
 2 *viridis*, *Lec.*
 ACMAEOPS 1 *trivittatus*, *Say.*
 2 *proteus*, *Kirby.*
 3 *pratensis*, *Laich.*
 GAUROTUS *cyanipennis*, *Say.*
 TYPOCERUS 1 *zebratus*, *Fabr.*
 2 *velutinus*, *Oliv.*
 3 *sinuatus*, *Newm.*
 LEPTURA 1 *emarginata*, *Fabr.*
 2 *plebeja*, *Rand.*
 3 *subhamata*, *Rand.*
 4 *lineola*, *Say.*
 5 *capitata*, *Newm.*
 6 *subargentatus*, *Kirby.*
 7 *zebra*, *Oliv.*
 8 *impura*, *Lec.*
 9 *6-maculata*, *Linn.*
 10 *nigrella*, *Say.*
 11 *carbonata*, *Lec.*
 12 *Canadensis*, *Fabr.*
 13 *rubrica*, *Say.*
 14 *circumdata*, *Oliv.*
 15 *vagans*, *Oliv.*
 16 *haematites*, *Lec.*
 17 *chrysocoma*, *Kirby.*
 18 *nigrolineata*, *Bland.*
 19 *proxima*, *Say.*
 20 *pedalis*, *Lec.*
 21 *vittata*, *Germ.*
 22 *nitidipennis*, *Prov.*
 23 *pubera*, *Say.*
 24 *sphaericollis*, *Say.*

- 25 *vibex*, *Newm.*
 26 *mutabilis*, *Newm.*
 27 *biforis*, *Newm.*
 28 *atrata*, *Lec.*
 29 *cordifera*, *Oliv.*
 30 *aspera*, *Lec.*
 31 *montivagans*, *Couper.*

The description of this *Leptura* is given in the Trans. Lit. and Hist. Soc., Quebec, 1864. It may be a var. of *6-maculata* or a northern form whose elytral markings are not permanent.

- EVODINUS *monticola*, *Rand.*
 BELLAMIRA *scalaris*, *Say.*
 STRANGALIA *luteicornis*, *Fabr.*
 MONOHAMMUS 1 *titillator*, *Oliv.*
 2 *confusor*, *Kirby.*
 3 *scutellatus*, *Say.*
 4 *marmoratus*, *Kirby.*

L'Abbé Provancher did not give this beautiful insect in his "Petite Fauna Entomologique du Canada." The insect occurs at Quebec. My specimens were taken in the latter city.

- DORCASHEMA *nigrum*, *Say.*
 GOES *oculatus*, *Lec.*
 LEPTOSTYLUS 1 *aculifer*, *Say.*
 2 *macula*, *Say.*
 LEPTARGUS *angulatus*, *Lec.*
 GRAPHISURUS 1 *triangutifer*, *Hald.*
 2 *faciatus*, *DeGeer.*
 POGONOCERUS 1 *pencillatus*, *Lec.*
 2 *mixtus*, *Hald.*
 EUPOGONIUS *subarmatus*, *Lec.*
 SAPERDA 1 *obliqua*, *Say.*
 2 *calcarata*, *Say.*
 3 *candida*, *Fabr.*
 4 *vestita*, *Say.*
 5 *tridentata*, *Oliv.*
 6 *lateralis*, *Fabr.*
 7 *moesta*, *Lec.*
 8 *concolor*, *Lec.*
 OBBEREA 1 *amabilis*, *Hald.*
 2 *tripunctata*, *Fabr.*
 TETRAOPES *tetraophthalmus*, *Forst.*
 DONACIA 1 *Harrisii*, *Lec.*
 2 *hirticollis*, *Kirby.*
 3 *magnifica*, *Lec.*
 4 *distincta*, *Lec.*
 5 *subtilis*, *Kuntz.*
 6 *confusa*, *Lec.*
 7 *emarginata*, *Kirby.*
 8 *Kirbyi*, *Lec.*
 ORSODACHNA 1 *Childreni*, *Kirby.*
 2 *atra*, *Ahrens.*

Continued from page 204.

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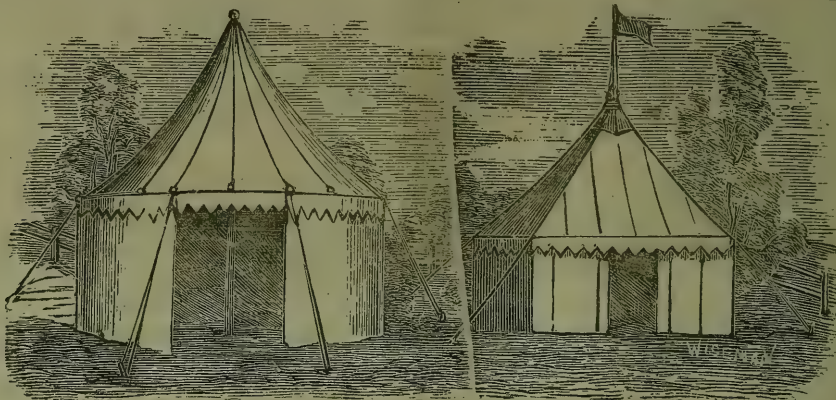
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VOL. III.
No 3.
1883.

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No. 3.

MONTREAL, MARCH, 1883.

VOL. III.

WILLIAM COUPER, Editor.

We cannot supply complete sets of vol. I of this journal—some of the numbers are exhausted.

CAUSES OF RARITY IN SOME SPECIES OF INSECTS.

Entomologists know that some species of insects are generally few in individuals, while others are numerous. Those which are useful to man, and have been, so to speak, domesticated by him, are, of course, kept up in as large numbers as possible, by the care and protection bestowed upon them. But the rest are left to the care of nature, and in the balancing of the great system of life, are subject to various influences, which affect them injuriously or otherwise. An enquiry into the causes which act in reducing their numbers would be both interesting and instructive, particularly in the case of those species which are *always* rare. Of course, some of these causes are easily discovered, but others, which may still be important, are obscure and difficult to trace out. For instance, a species may be rare, owing to the scarcity of its food plant. We cannot expect to find an insect, which may be confined to a single food plant, abundant where that plant is scarce. And an abundant species may be rendered rare in a given locality by the diminution of its food plant, say by the increase of cultivated ground, or by fire, &c. The following illustrates the point: The Gomin swamp, a well known collecting ground, close to the city of Quebec, is, or was, a breeding place of *Chionobas jutta*, a Labrador butterfly, which is not found in any other place within twenty miles of that locality. During the past fifteen years the swamp has been largely trenched and drained, and the butterflies have become scarce, no doubt owing to the loss of the food plant, which is probably some lichen or moss growing there. Another cause of the scarcity of some insects is their liability to parasitic attacks. The beautiful moth, *Samia columbica*, might be given as an instance of this. Mr. S. I. Smith, the describer of the species, says in his paper, "This spe-

cies seems to be infested by an unusually large number of parasites, since, out of more than twenty cocoons, I have succeeded in raising but three, nearly all the rest having been destroyed by ichneumons and other parasites. Its remarkable rarity is, perhaps, due to this fact." I may add that collectors in Canada have had a similar experience with this moth. Another case is that of *Pieris rapæ*, which threatened to be a real scourge to the country, but has been reduced within reasonable bounds by the assistance of the insect parasites preying upon it. A third cause, particularly in the case of noxious insects, is the efforts made by man to extirpate those which destroy his crops or injure him in other ways. These efforts sometimes make an injurious insect rare, but no insect has become extinct from this cause, as far as we know, nor is it probable that such will ever be the case. Among causes more remote than the above mentioned, and more difficult to trace, are variations in climate, and in the seasons, as compared with one another. The way in which insects are affected by different conditions of the atmosphere, and by hot and cold seasons, has not been thoroughly studied as yet. In some years, for example, the Lepidoptera are much more numerous than in other years. Their abundance, or the opposite, is no doubt dependent in a great measure on the weather of the preceding summer and winter, as well as on that of the passing season. And what may be favorable weather for the Lepidoptera may be unfavorable for insects of other Orders. The knowledge of what constitutes favorable conditions for the increase of noxious insects would be of practical value to the agriculturist, and is a subject worthy of the study of our entomologists. Another cause of the intermittent abundance and scarcity of some species is to be found in their migratory habits. In the case of the locust, this is evident to all. Some of the butterflies, belonging to the families PIERIDÆ, NYMPHALIDÆ and DANAIDÆ also have this habit. Some years *Pyrameis cardui* or *Vanessa J-album* will be plentiful about Montreal, and then for a series of years will be exceedingly rare. The explanation of the mystery probably is that a large number of the insects have migrated to the locality during

the season when they were abundant. The chief interest of the subject, however, centres in the fact that some species are *always* rare. Sometimes this may be partly accounted for by the scarcity of the food plant, or by their being subject to attacks of parasites to an unusual degree, but still there may be other reasons. Are such species dying out? And will they in a comparatively short time become extinct from purely natural causes? It is generally admitted that all animals receive at birth a vital impetus, sufficient to ensure their living for a certain period of time, which varies in length according to the species. That is, when not tainted by hereditary disease. This impetus carries each individual through a certain progress of growth, maturity and old age, provided accident or fatal illness does not intervene. In the case of man, this period is about seventy years. Yet we know that many a man, blessed with a vigorous constitution, is as strong and healthy at eighty as others are at sixty, a result due in a great measure to a difference in inherent vitality. This is the case with all animals, including insects. The latter live out their allotted time and die of old age, just as men do. Sir John Lubbock describes the death of his pet wasp as being evidently from this cause. And here, I may say that the Hymenoptera have among them insects which live longer than any other in the perfect state. Sir John Lubbock has had ants seven years old in his formicaries. Now, as there is an individual vitality in animals, giving to each a certain life period, which varies according to the species, may there not also be a specific vitality? May not species, as well as individuals, have an allotted time, and grow old and die? If such is the case, insects would give the best opportunities of studying the subject. The rapidity of the changes they pass through, and the quick succession of generations, would lead us to expect that, in a comparatively short time, many species might run their course, and become extinct from mere loss of specific vitality. The speculation is an interesting one, but its value will not be proved for a long time to come. I lately met, however, with an item in an old number of the "Zoologist," (page 7095) which seems to have some bearing on the subject. It is a communication from Dr. Wallace to the Entomological Society of London, and reads as follows:

Remarks on the occurrence of Rarer British Sphingidae.

"The fact that in many female Sphingidae

captured in Great Britain and Ireland, in the autumn months, no *ova* have been found, induces the question as to whether some species may or may not be continuously indigenous. Many think that the absence of *ova* in the female is merely a question of time, as in the case of *A. atropos*, the females of which, notoriously devoid of eggs in the forced autumn specimens, are found in June depositing *ova*, whence the brood is perpetuated. Others maintain that it is a question not of time only, but also of place; for taking *S. convolvuli*, females of which are constantly taken in the autumn months, almost invariably without eggs (in 1846 and 1859 the species occurred most freely; one individual took nearly fifty specimens in 1859, all the females of which were destitute of *ova*). In this case either a female is hatched in the autumn with eggs, hibernates and deposits *ova* in the spring, or emerges in the spring from the *pupa*, or else specimens fly over from abroad and deposit *ova* in this country. I would ask has *S. convolvuli* ever been taken or observed in the spring or early summer in this country, and if so in what condition or of what sex? Are we to look for a development of females of *D. lineata* without eggs, in the autumn months, if a hot summer intervenes? A series of observations carefully made as to time, place, condition, sex, and also as to the complete development of sexual organs of any or all of the rare Sphingidae, would help to resolve the question. I commend it to the attention of entomologists." The interesting fact here stated is, that numbers of females among the rarer Sphingidae in England, taken in autumn, are destitute of *ova*, and consequently incapable of continuing the species. Dr. Wallace seems to imply that hot weather is a cause of the phenomenon, the absence of *ova* being a result of the forcing process. May there not be other and more important causes working with this to bring about such a remarkable result? From what we know of the development of insects, the effect of an abnormal degree of heat, (within certain limits) on the *pupa*, is merely to hasten the appearance of the *imago*, and not to interfere with the perfection of its organs. It seems probable, therefore, that this failure in the due development of these most important organs is owing to a weakness in the specific vitality of these moths, tending to their complete extinction. A strong instance is that of *S. convolvuli*. Dr. Wallace asks if it has ever been taken in the

earlier part of the year. Newman gives September as its regular time of appearance. Yet many females of this species, at their regular time of appearance, are found destitute of *ova*, and the inevitable consequence is its rarity, and possibly its dying out, at least in England, unless (as intimated by Dr. Wallace) it is kept up by fresh specimens flying over from abroad. There is another cause of the rarity of some species, but its mode of operation is difficult to discover. Sometimes the introduction of an insect from another country, if it become abundant in its new *habitat*, will affect injuriously a native species, generally one allied to the species introduced. It is the general opinion of entomologists in the Province of Quebec, that since the acclimatization of *Pieris rapæ*, the native *Pieris oleracea* has become scarce. The newcomer seems in some mysterious way to have usurped the place of the other species, and driven it away from places where formerly it was abundant. How this has been accomplished, however, we cannot tell.

G. J. BOWLES.

THE HUDSONIAN CHICKADEE.

(*Parus Hudsonicus*.)

The true home of the Hudson Bay Tit, as this species is generally called, is in the more northern parts of the continent, in Labrador and the Hudson Bay region, with a range in those latitudes from the Atlantic to the Pacific; though at the east it is met with much farther south than in the middle or western sections. It is a resident of Nova Scotia and New Brunswick, breeding in both Provinces, where, though not abundant, it is far too common to be called rare, though it is more frequently met in winter than at other seasons. According to Mr. Everett Smith it is a common resident of the interior eastern and northern portion of Maine. Mr. Harry Merrill writes me that he has not known it to occur near Bangor, nor is it given in Mr. Nathan C. Brown's catalogue of Portland species, but there are records of a few being taken in New Hampshire, Massachusetts, and Connecticut. Mr. LeMoine in *Les Oiseaux du Canada* mentions it as a rare species (*plus rare en Canada*), and it certainly is along the entire southern section of the western Provinces, for Mr. Wintle does not appear to have found it near Montreal, nor is the name in the Saunders-Morden list, nor in Mr. McIlwraith's old list of Hamilton

species. Professor Macoun has not placed it in his partial list of Belleville birds, nor did he find the bird in the Grand Valley of the Assiniboine. It is not given in the catalogue of the Ottawa Field Naturalists' Club, though in the copy before me the name has been penned in by one of the members in place of *rufescens*, the latter being an obvious error as that species was discovered by Townsend on the Columbia River, and it has never been taken north or east of that region. But this is an error easily made unless the *habitat* of the two species is considered, their plumage being similar.

Of the eighteen species of the *Parinæ* found in North America the most widely distributed and the best known is the Black-capped (*P. atricapillus*), the type species of the family. This bird is found in all suitable localities along the southern borders of the Dominion (as well as much further south) from the Atlantic to Manitoba. In the latter Province and across the Plains to the Rockies it is replaced by *septentrionalis*, which Mr. Ridgway says "may be looked upon as simply a long-tailed western variety of the common species." Beyond the Rockies this is again replaced by still another variety, named by Baird *occidentalis*. Of the Hudson Bay Tit no variation in the western specimens has as yet been recorded. But it is in form and coloration, only that the species of the family exhibit any marked differences, for no matter what names they bear, nor where they make their homes, you will find them the same restless, merry, sociable pygmies with all the familiar habits of the Black-cap. Their songs also bear a strong general resemblance—if the jingling chant in which they carol their joy can be called a song—for whether the singer be he of the black tuft whose voice is heard on the banks of the Rio Grande; or *Carolinensis*, who helps to swell the chorus which comes up from "the Land o' Dixie," or our own brown-capped hero, whose tiny throistle flings a welcome to the sun as its light breaks upon the hills of the far north, or be he whatever member of this family he may, the theme of his song is much the same jaunty *teha-dee-dee-dee* as rings through our Canadian woods the whole year long. The song of the Black-capped and the Hudsonian are especially similar, and their general appearance and their manners in the field, particularly the latter, are so alike as to make their exact identification rather difficult; yet even in

their actions and their numerous notes there *is* a difference, though I confess it is not easily defined, but after some study their identification becomes unquestionable. In the northern bird the crown of black edged with white, so conspicuous in the congener, is replaced by a crown of rich brown edged with ashy; the throat also is brown, and the entire upper parts are more brown than ashy. Then the head does not appear so round, so much like a ball of down as the Black-cap's does, and the whole plumage partakes less of the fluffy character. The feathers appear firmer and set close to the body giving the bird, in a slight degree, a trimmer and more warbler-like look. And just as this additional stiffness in the contour feathers increases the dignity of the bird's appearance so does a slight stiffness in his movements add to the dignity of the bird's manners—if dignity is at all applicable to a bird who will persist in hanging to a limb with his head downwards and acting otherwise like a romp-loving school boy just after a circus has passed his way. For like all the race the Hudsonian lives principally on the eggs and larvæ of insects, which it finds in the crevices of the bark of trees, and in hunting after these it performs a variety of amusing and wonderful gymnastic feats, though I have never seen one attempt to climb the trunk of a tree as do their next of kin, the creepers. But in all these movements this species exhibits just a little less of that rollicking style—that free abandon which is so pronounced in the antics of the Black-cap. And in the songs of the two you can trace a difference of a somewhat similar character; that of the Hudsonian lacks the extreme sweetness and smoothness of its cousins. The voice is harsher and the syllables are delivered more distinctly and more deliberately. But with all their efforts to affect boarding-school airs they must be rather genial fellows, for in the autumn and winter troops of six or eight are met together and generally in company with as many Black-caps and a small contingent of Kinglets. Tree Sparrows sometimes join the party, and but a few days ago I met such a troop “doing” the rounds of the trees in one of the public squares of this city with a pair of Downy Woodpeckers following close in their rear.

The Hudsonians chatter away as they hunt for their food from branch to branch and tree to tree, but they do not always sing their full song; more frequently the first note heard

from an advancing flock is something like *tsay-day-day*, the last syllables rather lengthened or a sharper, quicker *te-teet-chee-chee*, and occasionally a guttural *tse-pu-pu-pu*. They have numerous other minor notes with which they fill in the intervals, and one, which they use chiefly when resting under the cover of heavy evergreen foliage, and in such places as they select for sleep, is like the thin *tsip* of a Kinglet. While on their foraging expeditions, and indeed at all times, they exhibit no symptoms of shyness and appear quite indifferent to the presence of mankind, occasionally pausing to gaze at an inquisitive intruder with a comical “who-are-you-looking-at?” air, and probably following this by some performance around a limb, as if to show off their athletic capabilities.

In the spring these gay companions separate, each taking a mate, and starting boldly into housekeeping affairs. It has been stated that the Hudsonian Chickadee selects a deep forest for the site of its nest, and this may be the general rule, but of the four nests that I have seen neither were placed in any such seclusion. The one most carefully hid away was in a rather thick swamp, but was quite close to the outskirts of a village and within a hundred yards of a much used highway; two of the others were in open pastures through which children played daily; while the fourth was in a telegraph post within a hundred yards or so of a railway station. During last season I was enabled to examine two nests of this species before they were removed from their original positions, one of these was found near Edmundston, not far from the Quebec border, by Mr. H. A. Purdie, of the Nuttall Club, Cambridge, and the other was discovered by Mr. James W. Banks within an hour's walk of this city. These two nests were so nearly alike both in position and construction that a description of one will apply equally well to either. They were placed in decayed and weather-beaten stumps (apparently spruce or fir), some three feet high and five inches in diameter, but unlike the Black-cap, who makes an entrance from the *side*, these builders had entered the stump from the *top*, beginning with a hole of about two inches diameter, which size was maintained for some six or eight inches, when it was increased gradually to about three inches, and this width was continued to the base of the excavation some twelve to fourteen inches from the top. At the bottom of this cavity, under the nest proper,

were two mats or platforms. The first or lowest of these, which was about one inch and a half thick, was composed of dry moss firmly packed, and upon this was placed another such mat made of the inner fur of the common hare, firmly felted into a compact mass. Upon this latter rested the cup-shaped nest made of the same felted fur and of such precise and graceful form as to have been no discredit to a more cultured artist. The walls of the nest were two and one-half inches high and half an inch thick. There was no other material used as a lining, but the interior had a soft woolly surface not observable on the outside of the walls. There were five young in one nest and six in the other, and both broods were in much the same stage of development, although the Edmundston nest was seen on June 14th, and the St. John nest on July 1. It has not been my good fortune to see the eggs of this species, but Mr. H. B. Bailey, of the Linnean Society of New York, who took several nests at Stéviacke, in Nova Scotia, during June, 1881, told me that the eggs differed but very slightly from those of the Black-capped. They are much the same size and shape, perhaps a shade smaller, but with the same white ground and irregular brownish-red and pinkish markings. I have seen it stated that they lay as many as eight and ten eggs, but I have never seen more than seven nor less than five young in the nests that I have examined. With all their reckless rollicking ways the Hudson Bay Tits make most devoted husbands and fathers, and though generally in a merry mood can be fierce when occasions demands and are always bold and courageous, as many an intrusive rodent and feathered egg thief has discovered; yet I have seen nothing in their actions to indicate the probability of the family fights noted by Wilson, nor of the display of fierce temper when despoiling their nests that has been mentioned by Audubon, Dr. Brewer and others, and I have had some opportunity to observe the latter. For example, my friend Purdie is kind and tender-hearted to a fault, and when he saw that his Hudsonian nest was filled with young he shrank from any unnecessary sacrifice of bird-life; but he is an enthusiastic collector, and he wanted that nest. After consulting, we determined to open the stump, take out the nest and replace it with one made of cotton-wool. This was successfully accomplished, but between our desire not to injure the nest, and the stubbornness of the stump, there was considerable time absorbed in the

operation; and all this time the parent birds hovered about us with a patient submission to the inevitable that was almost sublime. Their movements had lost the merry reckless dash so characteristic of their race, and while they passed fearlessly from bough to bough close around us, watching us with intense interest, they uttered only a few anxious notes and maintained a calm and dignified bearing that was unimpeachable.

MONTAGUE CHAMBERLAIN.

St. John, N.B.

BIRDS OF WESTERN ONTARIO.

SIR,—I have been very much interested in the January number of your paper and really delighted with the ornithological contributions it contains, but more particularly with the correspondence of Mr. Mellwraith of Hamilton, containing some careful criticisms on the list of birds of Western Ontario, given by Mr. W. E. Saunders and myself. Concerning the wintering of *Regulus calendula* in Ontario. I can say but very little, as I did not positively observe it myself; I never hunt much among the evergreens along the Thames, where it is said to winter. The Great Northern Shrike (*Lanius borealis*) is scarce here in winter, but sometimes it is common in October, remaining until after the first storms of snow, when they generally disappear. I have seen only one specimen of the species this winter, that was early in November, before all the black snowbirds and tree sparrows had departed. One of the last named, the shrike was pursuing when I observed it. I have never met with the adult of this species in summer, but in the month of August, 1880, a young man brought me a Marsh Hawk (*Circus hudsonius*), which I bought and asked him to procure others for me. In a few days, the same party brought me five young of *L. borealis* which were reared near where he lived. Their plumage contained many pin feathers, consequently I did not preserve them, but their large size and breast markings were, in my opinion, unmistakable proof of the species. I was told the parent shrikes were very shy and a few weeks previous had killed some very young chickens belonging to a farmer near by.

JOHN H. MORDEN.

Hyde Park, Ont.

NOTES ON THE BREEDING OF THE RED-HEADED DUCK AT LAKE ST. CLAIR.

Some of your readers are perhaps aware that during the spring of 1882, Mr. Herbert Keays and the writer were collecting specimens of natural history at Mitchell's Bay, Ontario. Perhaps some of the readers of this article may have enjoyed themselves at the little village of this name, as it is the resort of numerous sportsmen during the shooting season. For the benefit of those who may not have visited the spot, I will give a brief description of the localities in which we collected the specimens I intend to describe. The village is situated about half a mile from the shore, and at about the same distance inland, is a dense forest composed chiefly of elm and other soft wood trees. Here the surface of the ground is not more than three or four feet above the level of the bay, but sloping gradually to the water's edge. On the north and south of the village the marsh extends much further from the forests verge and partly encloses the body of water known as "Mitchell's Bay," which is about four miles in extent each way and very shallow, being not more than ten feet deep anywhere. The southern projection of marsh is called "Big Point Preserve," the northern boundary of the bay, "Mud Creek Preserve," and extends to the "Sny" as the outlet of Sydenham River is called. The marsh beyond the river called "St. Ann's Island," is an Indian Reserve, but is now leased and held as a game preserve by a club of sportsmen. Scarcely any part of this island or the adjoining marsh are much above the level of the water, and wherever the water does not form ponds, bays or channels, wild rice, coarse grasses and rushes cover the flats in freshest green. Amid the wiry grass, wild pea vines twine and bloom and the surfaces of the shallower pools are covered with the leaves of lilies and other aquatic plants. During our stay in this place we lived in a scow belonging to Dr. Garnier of Lucknow, to whom I am greatly indebted for many favours. My stay in this delightful spot will ever be dear to memory; sitting at my work—at early lamp-light—listening to the water-fowl and the splashing of the waves against our scow. No lover of nature could visit this spot during the month of May or June without being impressed by its beauties, and to us it was a collectors paradise. There was not a moment of the day

when the lively notes of some bird could not be heard, and sometimes the noise was astonishing; in the evening, when the sun was sinking out of sight, perhaps a loon would start its wailing cry and apparently, at once, every feathered inhabitant of the marsh would join with their own peculiar notes, but the Florida Gallinule, *Gallinula galatea*, was by far the most vociferous. Those who have never heard such an uproar can scarcely understand a written description. Imagine the music that would be made by hundreds of gallinules yelling on every side; the quacking of ducks, piping of rails, crying of loons and the indescribable notes of hundreds of marsh wrens, coots and grebes; the croaking of thousands of bull-frogs to say nothing of the hum of myriads of mosquitoes, and we find a din unparalleled. The first nests and eggs I shall describe are those of the Red-headed Duck (*Aethya Americana*). Early on the morning of May 27th, we started in a canoe to the southern extremity of St. Ann's Island in search of nests. Mr. Keays was wading in water too shallow to pole the canoe in; I paddled about until we took nest after nest of coots, gallinules, grebes, black terns, red-wings, rails &c. A female red-head was then observed by my friend, swimming quietly away among the reeds; he immediately started to search for the nest, which he knew must be near; a few minutes later, my ears were saluted by a shout that clearly indicated success. I lost no time in reaching the place and found him stooping over the nest and handling the eggs in a perfect ecstasy of delight. The nest was placed in six or eight inches of water, among coarse grass and flags, and was composed of those weeds of the previous year, very bulky, being about sixteen inches in depth and diameter; it was built abruptly out of the water, except on one side which had a regular slant of about a yard in length and which led to a passage among the weeds going to the open water. The internal diameter of nest at top was nine inches and the depth five inches. The eggs, ten in number, were of a bluish drab colour; they were uncovered when found, and in an advanced state of incubation; they varied in size, measuring thus, $1\frac{1}{2} \times 2\frac{3}{8}$, $1\frac{3}{4} \times 2\frac{1}{2}$, $1\frac{11}{16} \times 2\frac{1}{2}$, $1\frac{3}{4} \times 2\frac{7}{16}$. While we were taking the eggs, the female duck came twice and flew around us, and when we were a little distance from the place she alighted in the pond and swam rapidly to the nest; we again approached, when she took wing and in a few

minutes returned with her mate, both circling several times around us, quacking and showing much solicitude. Soon after, having taken as many eggs as we could blow during the remainder of the day, we returned to our lodgings. The second nest of the same species was discovered June 22nd; the nest was placed on a log among drifted weeds, &c.; the eggs as in the first instance, were uncovered and smaller than the first set discovered; they were six in number, and incubation had commenced. It is my opinion that the few specimens of *Aethya Americana* breeding at Mitchell's Bay, were wounded birds, unable to leave in spring, when the bulk of the species had left for northern regions, and I think this will account for their late breeding. It is my intention to send you my experience among other birds of the St. Clair marshes, and hope to hear from others who like myself, take a pleasure in this pursuit.

JOHN H. MORDEN.

Hyde Park, Ont.

COLEOPTERA FOUND IN THE
PROVINCE OF QUEBEC.

By WILLIAM COUPER.

- SYNETA ferruginea*, Germ.
LEMA 1 *melanocephala*, Say.
2 *trilineata*, Oliv.
3 *solani*, Fabr.
CRIO CERIS asparagi, Linn.
ANOMAEA laticlavata, Forst.
BABIA 4-guttata, Oliv.
MONACHUS saponatus, Fabr.
CRYPTOCEPHALUS 1 *Schreibersii*, Newm.
2 *mamifer*, Newm.
3 *sellatus*, Suffr.
4 *litratus*, Fabr.
5 4-maculatus, Say.
6 *venustus*, Fabr.
7 *dispersus*, Hald.
8 *congestus*, Fabr.
9 *guttulatus*, Oliv.
10 *auratus*, Fabr.
PACHYBRACHIS 1 *luridus*, Fabr.
2 *othonus*, Say.
3 *atomarius*, Mels.
ADOXUS vitis, Fabr.
XANTHONIA 1 *decemnotata*, Say.
2 *pilosula*, Mels.
3 *Stevensii*, Baly.
HETERASPIS pubescens, Mels.

- CHRYSOCHUS* 1 *auratus*, Fabr.
2 *cobaltinus*, Lec.
TYPHOPHORUS tricolor, Fabr.
PARIA 1 4-notata, Say.
2 *aterrima*, Oliv.
3 *laevicollis*, Crotch.
METACHROMA quercatum, Fabr.
COTASPI 1 *brunnea*, Fabr.
2 *praetexta*, Say.
3 *tristis*, Oliv.
4 *convexa*, Say.
CHRYSOMELA 1 *clivicollis*, Kirby.
2 10-lineata, Say.
3 *elegans*, Oliv.
4 *multiguttis*, Stal.
5 *Philadelphica*, Linn.
6 *multipunctata*, Say.
GASTROPHYSA 1 *polygoni*, Linn.
2 *formosa*, Say.
3 *cyanea*, Mels.
PRASOCURIS Phellandrii, Linn.
PHYLLODECTA vulgatissima, Linn.
PLAGIODERA 1 *lapponica*, Linn.
2 *tremulae*, Fabr.
3 *viridis*, Mels.
4 *chochlearia*, Syll.
CERATOMA caminea, Fabr.
PHYLLOABROTICA discoidea, Fabr.
LEPERUS meraca, Say.
DIABROTICA 1 *vittata*, Fabr.
2 13-punctata, Oliv.
GALERUCA rufosanguinea, Say.
GALERUCELLA sagittariae, Gyll.
MONOXIA obtusa, Lec.
TRIRHABDA 1 *Canadensis*, Kirby.
2 *virgata*, Lec.
EDIONYCHIS 1 *thoracica*, Fabr.
2 *petaurista*, Fabr.
3 *quercata*, Fabr.
DISONYCHA 1 *alternata*, Lec.
2 *punctigera*, Lec.
3 *glabrata*, Fabr.
4 *collaris*, Fabr.
5 *triangularis*, Say.
GRAPTODERA 1 *bimarginata*, Say.
2 *chalybea*, Ill.
BAPTOPHILA spuria, Lec.
BELAMIRA scalaris, Say.
ORCHESTRIS 1 *lepidula*, Lec.
2 *vittata*, Fabr.
6 *bipustulata*, Fabr.
DIBOLIA aerea, Mels.
SYSTEMA 1 *Hudsonias*, Forst.
2 *frontalis*, Fabr.
3 *collaris*, Crotch.
4 *marginalis*, Ill.

- ORTHALTICA capallina, *Fabr.*
 CREPIDODERA 1 helixines, *Linn.*
 2 atriventris, *Mels.*
 CHÆTOCHEMA denticulata, *Ill.*
 PSYLLIODES punctulata, *Mels.*
 BLEPHARIDA rhois, *Forst.*
 ODONTOTA 1 scapularis, *Oliv.*
 2 bicolor, *Oliv.*
 3 scutellaris, *Oliv.*
 4 rosea, *Web.*
 MICRORHOPALA 1 interrupta, *Couper.*

This species is in the collection of the Laval University of Quebec. It was found near Chateau Bigot, north of that city.

- 2 excavata, *Oliv.*
 CHELIMORPHA cassidea, *Fabr.*
 COPTOCYCLA 1 aurichalcea, *Fabr.*
 2 guttata, *Oliv.*
 3 plicata, *Boh.*
 MEGILLA maculata, *DeGeer.*
 HIPPODAMIA 1 LeContei, *Muls.*
 2 convergens, *Guer.*
 3 13-punctata, *Linn.*
 4 glacialis, *Fabr.*
 5 parenthesis, *Say.*
 ANISO STRICTA strigata, *Thunb.*
 COCCINELLA 1 trifasciata, *Linn.*
 2 9-notata, *Herbst.*
 3 5-notata, *Kirby.*
 4 tricuspis, *Kirby.*

- CYCLONEDA sanguinea, *Linn.*
 ADALIA 1 frigida, *Schn.*
 2 2-punctata, *Linn.*
 ANISOCLAVIA 14-punctata, *Linn.*
 ANATIS 1 15-punctata, *Oliv.*
 2 Canadensis, *Prov.*

- MYSIA pullata, *Say.*
 PSYLLOBORA 20-maculata, *Say.*
 CHILOCORUS bivulnerus, *Muls.*
 BRACHYACANTHA 1 dentipes, *Fabr.*
 2 ursina, *Fabr.*
 3 10-pustulata, *Mels.*

- HYPERASPIS signata, *Oliv.*
 SCYMNUS 1 caudalis, *Lec.*
 2 tenebrosus, *Muls.*
 MYCETINA 1 testacea, *Lec.*
 2 perpulchra, *Newm.*
 ENDOMYCHUS biguttatus, *Say.*

- PHYMAPHORA pulchella, *Newm.*
 MYCOTRETUS sanguinipennis, *Say.*
 CYRTOTRIPLAX 1 humeralis, *Fabr.*
 2 unicolor, *Say.*

- TRIPLAX thoracica, *Say.*

This list numbers about 1012 species found to date in the Province of Quebec. In "The Canadian Entomologist," between the years 1868-'72, Mr. J. Pettit published a list of 1297 species of Coleoptera, collected by himself in the neighborhood of Grimsby, Ontario. Many additional species could be added to the Quebec list, as very little has been done in collecting the small forms of CURCULIONIDÆ or weevils. I have made no attempt at classification, my object being to make it useful as a future reference to young beginners in the study of this branch of Entomology.

ENTOMOLOGICAL REPORT FOR 1882.

The Report of the Entomological Society of Ontario for 1882, is fraught with interesting and instructive information for the Agriculturist and Entomologist. The subjects are treated in an easy, pleasant way, that those interested may read and learn. When I was a youth, studying insects, books containing descriptions and life histories of species inhabiting Canada could not be obtained for love or money. In 1843, there were a few systematists and students in the United States, but the papers then published were obscure to a beginner. Now these reports are of inestimable value to young Canadian students in Entomology. The papers are largely illustrated by excellent electrotypes of injurious and beneficial insects belonging to the various Orders. The report contains the President's address delivered at the Montreal meeting. Six of the papers have been written by our entomological neighbours, and ten by Canadian writers. This is proper, as it should be; entomological reciprocity benefits both countries, and these mutual communications are doing good.—C.

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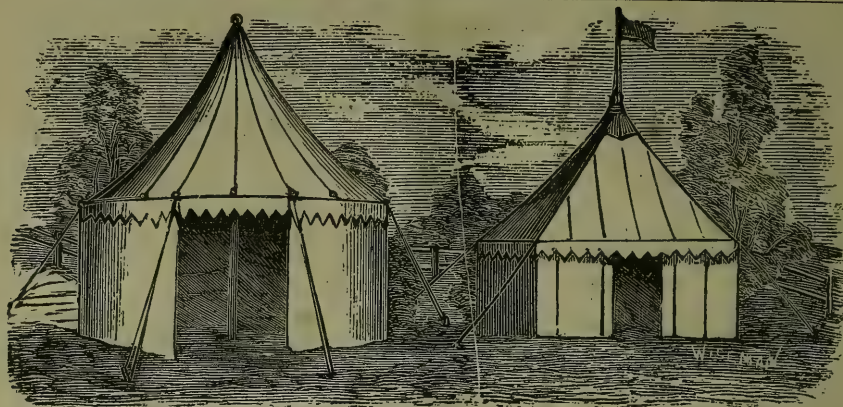
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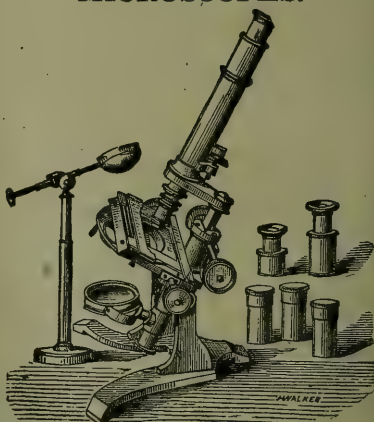
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MONTREAL, APRIL, 1883.

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WILLIAM COUPER, Editor.

OWLS.

Two beautiful specimens of the rare cinereous owl were sent to me in March. One was a female shot at St. Remi, the other, a male, secured in the neighbourhood of Huntingdon, Que. Two owlets of this species were procured about three years ago, from a nest found in a tree in the new settlement of Ponsonby, a wild region not far from Montreal. From these facts, it is evident that the great cinereous owl is becoming more resident in the woodlands of Quebec. Formerly it was considered a visitor during winter, like the snowy owl, coming from the lands inhabited by the leming. Although it is only of late years that this owl was discovered in the latitude of Quebec during summer, we have no authentic knowledge of its habits during the nesting season. Why is this powerful bird so rare, while the barred owl, a smaller species, is generally abundant? The young of the latter were found on the ground in a forest near Quebec, and the adult birds are common in our woodlands at all seasons. There appears to be a great difference regarding the positions whereon a few of our owls make their nests. Mr. W. G. A. Brodie says "that the long-eared owl and the snowy owl nest on the low trees in Manitoba," while we have been informed by other observers that the latter species deposits its eggs in a nest on the ground. The information that the snowy owl constructs its nest on trees in Manitoba is new and interesting to us, as it was formerly supposed to return to the far north to bring forth its young. The Great North-west is, however, becoming settled by intelligent observers of nature, and in a few years we will doubtless obtain a clear and correct record of its *fauna* and *flora*. The barred owl is probably the only American species having dark eyes. Why is the bird thus an exception in its class? The other owls possess bright yellow eyes, and they have also the power of dilating and contracting their black pupils to suit the glare of light in which they may be placed. Generally speaking the yellow-eyed owls are not so common (at least in the eastern

portions of Canada) as the dark-eyed species. Those possessing the yellow iris may possibly range over a larger extent of territory, while the barred owl may be more local in its *habitats*. The great Virginian owl is not in any way a common species, especially near the habitations of man; the same may be said of the hawk, Tengmalm's, saw-whet, the long and short-eared owls which have a yellow iris to their eyes. These birds generally gloar and stare at a person when approached in day-light. We would be pleased to have the opinions of ornithological students regarding the above questions, with remarks on the peculiarities which may have been noticed in the economy of owls—for instance—stratagem or modes by which they procure their food; giving also statements regarding the correct use of the black-bordered transparent membrane so conspicuously connected with their eyes.—C.

NOTES ON THE NATURAL HISTORY OF MANITOBA.

BY W. G. A. BRODIE.

(Read before the Natural History Society of Toronto.)

One of our characteristic rodents is the "Sand Rat," northern pocket gopher, the *Thomomys talpoides*, Rich.; it is about the length of a house rat but heavier and of a more clumsy build; usually the color is dirty grey varying to nearly black. The cheek pouches open on the outside of the mouth, are hairy inside and will hold a handful of grain. The ears are short, placed in the centre of a dark patch and the sense of hearing is acute. The incisors are large and sharp, the molars sharp around the edges. The legs are short and the toes have long claws and they are good diggers. They are strictly nocturnal in their habits but this is of little value in the struggle for existence for their nocturnal enemies are many—owls, coyotes, foxes and badgers. Another is the northern chipmunk or *Tamias asiaticus*, Gmel; it is common in all wooded sections, is very variable but easily distinguished from its near congener in Ontario the *Tamias striatus*, Linn. The ground squirrel, *Spermophilus Richardsons*, Sabine,

and the gopher, *Spermophilus tridecemlineatus* Mitchell, are very numerous and the prairie is everywhere riddled with their burrows. The pretty jumping mouse *Zapus Hudsonius*, Coues, is common wherever there is brush-wood. We have several species of *Arvicola*. *Arvicola riparius*, Ord. *A. riparius*, var. *borealis*, Rich. *Arvicola xanthognathus*, Leach, and some undetermined forms. They abound everywhere except on sandy plains, and supply an abundance of food for diurnal birds of prey. The flying squirrel, *Sciuropterus volucella*, Pallas, or rather *S. volucella*, var. *Hudsonius*, Gmelin, is common in wooded sections; they differ very little from Muskoke specimens, except that the fur is longer and denser. We also have the red squirrel, *Sciurus Hudsonius*, Pallas, where there is large timber; they do not differ very much from those you find down the glen in St. James' Cemetery. The northern hare, *Lepus Americanus*, Exl., var. *Americanus* is also common, preferring wooded sections to open prairie. The western porcupine, *Erethizon dorsatus*, Linn. var. *exipanthus*, is often found on open prairie a long distance from this. As a check on the increase of these plant eating animals we have a number of carnivorous species, the coyote, *Canis latrans*, Say, common everywhere; the timber wolf, *Canis lupus*, Linn., found in wooded sections; the red fox, *Vulpes vulgaris*, Flem., of which there are several varieties; the badger, *Taxidea Americanus*, Bodd., a fierce and greedy foe, also several species of the Mustelidæ. The wild cat *Lynx rufus*, Raf., is occasionally seen but they are small and not at all formidable. The moose, *Alce Americanus*, Jard., the caribou, *Rangifer caribou*, Aud., the elk, *Cervus Canadensis*, Exl.; the red deer, *Cervus Virginianus*, Gray.; the jumping deer, *Cervus macrotis*, Say., are all more or less common. The bear *Ursus Americanus*, Pallas, is represented by the usual varieties, black, brown and cinnamon. From Cypress Hills and along the rockies, to far up into the Peace River section is the haunt of the grizzly and whoever desires a skull must hunt for it there. This country seems particularly favorable to birds. I have seen nearly all the birds I knew in Ontario and many that are not found there, or only as occasional visitors. One reason for the abundance of species here is, I think, that in their spring migrations northward they keep in the valley of the Mississippi and being hemmed on the east by the great lakes and on

the west by the Rocky Mountains they have an uninterrupted course to Manitoba and the North-west. The security they have enjoyed for ages, during the breeding season is no doubt a great attraction, and accounts for the wonderful abundance of individuals, and the vast tracts of land—not fit for settlement—will afford cover for the most timid for years to come. The advantages here of studying bird life, of collecting specimens is quite to be envied; indeed so many birds build here that last summer, I am sure, I could have collected a waggon load of eggs of many species. As a general rule, the trees here are small, and nests easily got at. I have seen dozens of nests of the common buzzard *Buteo Swainsoni*, Bon., within easy reach from the ground in oak shrubs and poplar thickets. The nests of the brown thrush, *Harporynchus rufus*, Cab., are especially numerous in all low thickets and just as up the Don or down the railway track from Toronto, the male bird sits on the topmost branch and pours out his cheering love song with vigor and variety. The veery, *Turdus fuscescens*, Bd., the wood thrush, *Turdus mustelinus*, Bd., and the robin *Turdus migratorius*, L., are all very common, the robins especially so; they sometimes remain until quite late in the fall. I got a specimen last October after snow had fallen. Warblers, kinglets and wrens abound and their nests are seen everywhere, when the leaves are off the trees. The ruby crowned kinglet, *Regulus calendula*, L., is quite common and in early spring when the azure bloom of the sand flower covers the prairie and its fragrance fills the air, when half opened leaves deck trees in the freshest green, the cheery musical song of this pretty little bird is heard as it darts among the willow blossoms. The chickadee, *Parus atricapillus*, L., remains here during the winter, and I have noticed with this as well as other birds that winter here, that the plumage is ample, soft and downy and that when it is cold they erect their feathers—apparently without effort—so as to appear much enlarged, presenting a greater depth of feather and of course a better protection from cold. The nuthatch, *Sitta Carolinensis*, Gmelin; the house wren, *Troglodytes aedon*, Vieil.; the longbilled marsh wren, *Cistothorus palustris*, Wilson, are common; the last around marshes and sloughs and in early morning, its peculiar note may be detected amid the chorus of red-winged black birds, the discordant laughing of mud hens, the trumpeting of the whooping crane, over

head, his long legs stretched out behind, as he wings his way to some favorite fishing ground. The shore lark, *Eremophila alpestris*, Boie., and the long-spur, *Plectrophanes lapponicus*, L., come very early in spring and remain until late in winter, but it cannot be said that they remain with us all winter, and I would here make the broad statement that all our birds are more or less migratory; that they all leave their breeding places and move southward as winter sets in, and that the birds found here in the winter breed north of us. The neat and substantial nests of the summer warbler, *Dendroica aestiva*, B. D., are found everywhere in willow scrub; the nests of the superb little redstart, *Setophaga ruticilla*, L., are also common. Last spring we shot a fine specimen of the butcher bird, *Collurio borealis*, Vieil., and laid it with some other birds on the top of the shanty; very soon we heard a noise and on going out saw a butcher bird tearing his dead relative to pieces. I found a nest of this species in a dense spruce tree last spring. The white-winged crossbill, *Loxia leucoptera*, Gmel.; the pine grosbeak, *Pinicola enucleator*, L. and the red-poll linnet, *Agriolus linaria*, L., are found here summer and winter; in winter, in small flocks, feeding on the ends of trees and shrubs, the hips of the wild rose being the staple. A flock of about two hundred and fifty snow buntings, *Plectrophanes nivalis*, L., has been around the town for some days and they have done some damage to bags of grain laying about the station, pecking holes in them and feeding on the contents. The savanna sparrow, *Passerculus savanna*, Bon., the bay-winged bunting, *Foetes gramineus*, Gm.; the sharp-tailed finch, *Ammodorus caudacutus*, Gm.; the song sparrow, *Melospiza melodia*, Wils., and the snow bird, *Junco hyemalis*, L., all nest in the bluffs and on the open prairie. Here also is the towhee bunting, *Pipilo erythrophthalmus*, L., with his clerical coat, white vest, bright red eyes and sweet little matin song, they nest on the ground in tangled thickets or near brush heaps. That queer family, the Icteridae is well represented here; of the sixteen species found in North America, I have already seen nine, and all very common. There is no uniformity in their architectural abilities. The orioles build in trees, the most complicated and strongest nests, in fact are the best nest builders of all our birds; the rusty grackle, meadow lark and bobolink build on the ground a very poor but well concealed nest, while the cow bird

does not build at all, declining even the duties of housekeeping. They also differ very much in plumage; the oriole, crow blackbird, *Quiscalus purpureus*, Bart.; yellow-headed blackbird, *H. xanthocephalus icterocephalus*, Bon., and the meadow lark are very beautiful; the cow bird, *Molothrus ater*, Bodd., and the rusty grackle, *Scolecophagus ferrugineus*, Gm., very plain. Again the oriole, *Icterus Baltimore*, L., meadow lark, *Sturnella magna*, L., and the bobolink, *Dolichonyx oryzivorus*, L., are all more or less musical, while the rusty grackle, red-winged blackbird, *Agelaius phoeniceus*, L., and the cow bird make the most discordant skreekings. Again the bobolink and the meadow lark have hard, sharp pointed, woodpecker like tails, while in the oriole the tail is soft and square at the end. Altogether the Icteridae are a motly lot and well worth attention and study. The common crow, *Corvus Americanus*, L., and the raven, *Corvus corax*, L. are common, so is the blue jay, *Cyanurus cristatus*, L., and the Canada jay, *Perisoreus Canadensis*, L., is common in every bluff. The king bird, *Tyrannus Carolinensis*, L., is here in full force chasing and annoying hawks as usual, and every summer night, thousands of whippoorwills, *Antrostomus vociferus*, Wils. contend with each other as to which can make the loudest and most rippling complaint. The night hawk, *Chordeiles Virginianus*, Gm., is also very common and I found a great many nests—or rather lots of eggs—for they make no attempt at nest building but lay in exposed places on the open prairie. The common kingfisher, *Ceryle alcyon*, L., is common along all our rivers and small streams, nesting as in Ontario. Of woodpeckers we have the hairy, *Picus villosus*, L., the downy, *Picus pubescens*, L., the black backed, *Picoides arcticus*, Sw., and the golden winged, *Colapetes auratus*, L., the three species first mentioned are found here all winter; the last leaves early in fall; they are very common; every dead stub is pierced with half a dozen of their nesting holes. The great horned owl, *Bubo Virginianus*, Gm., the long eared owl, *Otus vulgaris*, L., and the snowy owl, *Nyctale nivea*, L., are all very common, nesting in small trees, wherever found. The peregrine falcon, *Falco communis*, Gen., the most fierce and daring of all our hawks, is very common, nesting in bluffs and is the terror of the poultry yards. The sparrow hawk, *Falco sparverius*, is very common, nesting in woodpeckers old holes. The broad winged buzzard, *Buteo Pennsylvanicus*, Wils.;

the rough legged buzzard, *Archibuteo lagopus*, Brunn. abound everywhere. The turkey buzzard, *Cathartes aura*, L., is not uncommon but as yet I have no proof that they nest here. One of our characteristic birds is the prairie chicken or sharp tailed grouse, *Pediocetes phasianellus*, Baird.; it is abundant all over the prairie, builds on the ground by the edges of bluffs and lays about twenty rather small eggs; the ruffed grouse, *Bonasa umbellus*, L., is also common in the bluffs and nests just as in Ontario. The killdeer plover, *Agialites vociferus*, L., the least sandpiper, *Tringa minutilla*, Vieil., the snipe, *Gallinago Wilsoni*, Temm.; the woodcock, *Philohela minor*, Gray, are all quite common. The large and fine godwit, *Limosa Hudsonica*, Lath., is common, also the upland plover or gullie, *Actiturus Bartramius*, Vieil., is very common, building in clumps of grass, and laying about five large spotted eggs. The two cranes—the sand hill, *Grus Canadensis*, L., and the whooping, *Grus Americana*, L., are common and their nests are often found. Wild geese are very numerous in spring and fall but usually breed further north. This is par excellence the country for wild ducks, they are more numerous here than robins are in Ontario. I have found the mallard, dusky duck, pintail, gadwall, widgeon, green-winged teal, blue-winged teal, shoveller, wood duck, red head, canvas back, buffle head, long-tailed duck, goosander, hooded merganser, all breeding here. The mallard and the teal are the most common and their nests are frequent along the margin of ponds, and in midsummer flocks of young ducks are seen sporting themselves in every pond. The white pelican, *Pelecanus trachyrhynchus*, Lath. is often seen and breeds around Shoal Lake and other localities to the north. I noticed a species of tern, *Hydrochelidon lariformis*? L., very common about ponds, hovering over the water and occasionally darting down and coming up with a water lizard. They make a great row when their nests are approached, flying around one's head and nearly striking. It is enough to scare one to see it coming swiftly through the air direct for one's face, with its mouth wide open and deafening one with its most unearthly screaming.

NESTS OF THE WILD MALLARD IN ST. CLAIR FLATS.

There are evidently several species of duck which reside and nest in the St. Clair Flats. Nests of some of these species have been so far

discovered. I have remarked a peculiarity in the building seasons which seems common to all wild ducks, especially when the male and female are swimming off in front of my boat, that the female is always the first to give signs of alarm, the male never takes wing first, but waits until his mate has started. The mallard is very noisy during its nesting season, and this is remarkable for some time before she commences incubation. The drake and duck are then restless, flying from place to place about the vicinity of the nest; both will then quack loudly while on the wing. I found two nests of the mallard (*Anas boschas*) last season. The first nest was discovered on May 23, 1882. I was in a canoe rounding a point of St. Ann's Island, when I heard a splashing of water behind where I passed, caused by a female *boschas*, acting in a strange way, as if wounded, making off from the nest, by partly swimming and attempting to fly, until about forty yards distant, she took wing and flew a few hundred yards, alighting in a pond. I thought if that duck has a nest in this locality, she has certainly exposed her treasure by her unnecessary mimicry. I then forced the canoe into the grass, and on stepping out to search, found its nest in a thick bunch of grass, which almost encircled and covered it so closely as to completely hide the eggs. The nest was on the highest part of the point, which was about twelve feet wide. The structure was not bulky, being constructed principally of fine dead grass. The lower portion was wet, and the eggs (nine in number) were not more than two inches above the water. The eggs are bluish drab; they were neatly hidden in the nest with soft down and fine dry grass. Average size $1\frac{3}{4} \times 2\frac{1}{4}$ inches. Incubation was advanced, but by making a $\frac{1}{4}$ inch hole, and with the use of an embryo hook and scissors they were saved for my cabinet. The second set of mallard eggs were obtained on the 5th of June, by Mr. Keays and myself from a nest found on Walpole Island, which is separated from St. Ann's Island, by Johnson's channel, one of the mouths of the River St. Clair. The place chosen was higher and dryer than that in which the former one, was found, being situated about thirty yards from the channel. That morning's oological search with the use of the boat was successful, but in the afternoon, Mr. Keays was on shore hunting among the long grass, when a female mallard flew up a short distance from where he stood. After looking about a short time, the nest containing

three eggs was found. We concluded to leave it for a week in order to obtain a full set. Seven days later, on returning, we found only six, which were slightly incubated. The construction of this nest was similar to the former.

JOHN ALFRED MORDEN.

Hyde Park, Ont.

CHALCID PARASITES IN LARVÆ OF LAVERNA GLEDITSCHIELLA.

V. T. Chambers in "Canadian Entomologist," vol. ix, p. 233, says—" *Laverna gleditschiella* is much subject to the attacks of hymenopterous parasites in its larval condition. Yet it is difficult to understand how this is possible under the conditions of its larval life. I have never been able to understand how the larvæ gets to the pith without leaving some trace of its path from the outside of the stem. The egg must be deposited on the outside of the stem, because the ovipositor of the female is too soft to be able to penetrate the bark and wood to the pith. It would seem that the eggs of the little chalcid parasite must be deposited on the microscopic larva of the moth as soon as it emerges from the egg, and before it has eaten its way into the branch, because it is impossible to understand how it can be done afterwards, as these little parasites are themselves so small that two of them placed end to end would not extend from the outer surface of the back of the twig to the central pith, and their ovipositors are very short and not exerted."

In elucidation of this problem, I am of opinion that the egg of the parasite is not laid upon the lepidopterous larvæ, but on (or in close contiguity to) the egg of the future host, and the eggs hatching simultaneously, or possibly those of the parasite a little in advance, the larva of the hymenopterous parasite attach themselves to the body of their victim, into which they immediately make their way and are carried into the pith inside the body of the lepidopterous larva. In no other way can I conceive it possible for Chalcid parasites to infest the bodies of internal feeding larvæ of such small dimensions as those of the micro-lepidoptera.

RICHARD SHIELD.

Montreal, April, 1883.

"CAUSES OF RARITY IN SOME SPECIES OF INSECTS."

The interesting paper on this subject by Mr. Bowles, in the last number of the

Canadian Sportsman and Naturalist, offers to entomologists some valuable ideas for consideration, and draws attention to several points in connection with our insect fauna which should be carefully investigated. *Chionobas jutta* was mentioned as becoming rare in the vicinity of Quebec through the draining of the swampy tract in which its food plants grew. Near this city there is but one habitat so far discovered for *Melitea phaeton*, and this of a very limited area. Should it be cleared and drained, as has been partly done already, this beautiful species would disappear from our local fauna. Thus in the case of species having restricted habitats, we can trace the cause of their disappearance, and similar causes will account for the gradual extinction of many species having a wider range. As the forests and marshes are cleared, many varieties of food plants are partly or wholly exterminated, while the insects have now added to the list of their enemies. Thus with a scarcity of appropriate food and with additional foes to encounter, they are sooner or later numbered with the things that are no more. The unusual abundance of parasites in any year, or series of years, might in the case of a rare species lead to its extinction, but this would, probably seldom occur over an extended area. Immense numbers of *Vanessa antiopa* were destroyed last season by small ichneumonids, but in the case of this common butterfly the result can be but to check it for a year or so. The effect of different seasons upon insect life has, as Mr. Bowles remarks, not yet been thoroughly studied, and the difficulties of doing so are very great, owing to the enormous diversity of species, and that what is one's meat is another's poison. I think we may safely predict, however, that after the cold, steady winter which we have had, with its abundance of snow covering the ground continually, we will have an unusual number of insects during the approaching season, and our collectors would do well to record whether such proves to be the case. The conditions appear to me to have been very favorable, for a large proportion of our species at least. I have not noticed any migratory habits in our species of butterflies and am unable to say whether they have much part in causing an abundance or scarcity of local lepidoptera. *Vanessa J. album* is rare here I imagine, for only one specimen has been captured in six years. The theory of species having originated with a certain vital impetus, which in some has already, and

in others is now almost exhausted is particularly worthy of attention, whatever its value. We know that innumerable species have become extinct in past ages, and have been followed by those which now furnish our collectors with their favorite occupation. We further know that within the memory of man many species, as for instance among birds the great auk and the dodo, have vanished, while others are even now crossing the threshold. Variations in climatic conditions, with consequent alteration of habitats, must account for the vast majority of changes in the terrestrial fauna. What percentage, if any, can be ascribed to an inherent lack of specific vitality appears to be a problem offering but little prospect of solution. Not being a lepidopterist I can merely offer a suggestion, or rather I will put a few queries, as to the sterility of the autumn-emerging females of the Sphingidae, a characteristic of some of our own species as well as of the European ones mentioned. Can we consider these autumn specimens as immature individuals, which, under exceptional conditions, attain the perfect form without a corresponding perfection of the generative organs? Had they the necessary vitality and ability to exist during the winter, and until the spring individuals (sexually mature) emerge, would the *ova* become developed? Does the appearance of such specimens after a hot and prolonged summer indicate descent from species which in more southern localities, or under different conditions of temperature in their present range, were double-brooded? A writer in "Science Gossip" some time ago recorded the occurrence in North India of species which are also taken in England, and stated that species which are single-brooded in the latter place are double-brooded in India, and also appear in great and often astonishing abundance. Among them is *Sphinx convolvuli*, which apparently is only a visitant of the British Isles, where it appears to be incapable of continuing the species owing to unfavorable climatic conditions. The last point brought forward in Mr. Bowles' instructive paper is the tendency of imported insects to supplant in some instances our native species and to cause them to become rarer. This is often due to the energetic measures taken to suppress the new comers, and which tend equally to thin out the native species which, although they have similar habits, are not so prolific or destructive as to rouse agriculturists to take up arms against them. The precautions taken

against *Pieris rapæ* are equally effective against *Pieris oleracea*, and have doubtless tendered to its decrease in the districts invaded by the foreigner.

W. HAGUE HARRINGTON.

Ottawa, 5th April, 1883.

CAUSES OF RARITY IN SOME SPECIES OF INSECTS.

I have been much interested in an article by G. J. Bowles in *The Canadian Sportsman and Naturalist* for March, 1883, bearing the above title and although I can offer little towards the elucidation of the subject, yet I may attempt a few suggestions and facts which may not be uninteresting. For a convenience and purpose, I class them under the following heads:—

1. Drainage and cultivation.
2. Variations of seasons.
3. Migrations.
4. Holding over.
5. Occasional visitants.

1. The drainage and cultivation of land by destroying or causing a scarcity in the natural food plant or plants of any particular insect must of necessity make the species rare in that district, ultimately leading to their extinction, but on the other hand, cultivation may have the effect not only of producing other species in that district, but of almost changing its *fauna*. This according to Mr. Bowles' statement, is now in progress in the Gomin swamp near Quebec, in the case of *C. jutta*, and the same effect is remarkable in the Lincolnshire and Cambridgeshire fens (England). In Yaxley fen and Whittlesea mere, where some years ago, *Papilio machaon* used to be taken in abundance and *Zeuzera arundinis* commonly, but through the drainage and cultivation of the fens, those insects are now becoming scarce, while *Chrysophanes virgaurea* and *C. dispar* have completely died out. On the other hand, cultivation and drainage have changed the fen *flora*, producing an insect *fauna* entirely dissimilar to their predecessors.

2. Climatic influences on the variations of seasons no doubt have a very great deal to do with the relative scarcity or abundance of insects, not so much, I am inclined to think, as to the warmth or coolness of the previous summer, as to the duration and regularity of the winter temperature. In seasons when the ground is covered with snow (as in the past winter) and as a consequence the temperature

has been almost equable, we may take it as a pretty sure guarantee that when spring commences and rouses the insect world, it will receive no check and those *pupæ* and *larvæ* which have lain all winter inactive, will, on awaking from their torpor, find vegetation ready to receive them. But on the contrary, an intermittent winter season; a succession of frosts and thaws is fatal in a great degree to Lepidopterous *larvæ* and *pupæ*; by alternate freezing and thawing, a species of fermentation is induced causing muscadine in the *larvæ* and rotteness in the *pupæ*, while exposing them at the same time to the attacks of mice, chipmunks and other enemies. These causes combined with their natural enemies such as ICHEUMONIDÆ, CHALCIDÆ and TACHINIDÆ attacking the *larvæ*, must result in a corresponding scarcity.

3. Migrations of insects are as well known and established facts in entomology as those of birds in ornithology, but the reasons for them are not so clear. In birds it is usually for the purposes of breeding or the physical necessity of a climate more congenial to their habits, and the migration is total and not partial, except in the case of stragglers who from weakness or wounds, have been compelled to remain behind. Except in the case of the locust (*Locusta migratoria*) I do not know of any species of European insect periodically migratory. *Vanessa (Pyrrhia) cardui* is probably the only Lepidopterous insect that has been met with far out at sea, and evidently with a settled purpose to reach some given point; but partial migrations from one part of the country to another are frequent and usually occur at the height of the season when the last brood has left the *chrysalis*, or, if the species is single brooded, almost as soon as it emerges. When I was at Fray Bentos del Uruguay, South America, in February, 1859, the branches of small trees for scores of yards were defoliated and the clustered *larvæ* of a species of *Vanessa* allied to *V. urticae* were bearing them down with their weight. They were as thick on the bare stems as bees in swarming time—in clusters of two or three feet in length—I believe that within the distance of a dozen yards, I could have collected eight or ten bushels of *larvæ*. But in two or three days, they had all left the trees, and in about a fortnight afterwards the insects could have been caught by thousands. They were flying in hundreds, rising in the air and settling like flocks of pigeons, but in a week after-

wards, fifty could not have been taken in the same locality, where before they appeared so abundant. Where had they gone to? Migrated evidently and dispersed themselves over the country. These *Vanessæ* were bred on the spot, but it is no uncommon thing to meet with small swarms or knots of butterflies evidently not feeding, but congregated for some other purpose, invariably occupying an isolated piece of bare earth or rock, and this usually on a warm, cloudy day.

W. H. Edwards, "Canadian Entomologist" vol. x, p. 140 says:—

"I have seen very few Papilionidæ of any species this season up to date, except *ajax*, which has been abundant as ever, but of *turnus*, usually exceedingly plenty in spring, I have seen scarcely half a dozen examples. No *troilus* and few *philenor*. So *Cotias philodice* and all Pierids have been remarkable for their absence; but butterflies from hibernating *larvæ*, or hibernating imagos, in contrast with those from hibernating *chrysalids* have been abundant—Meliteas, Argynids *Vanessans* and Satyrids. On 2nd June, 1877, I rode for several miles along a creek not far from where I live and Papilios swarmed. Passing a flat rock by the side of the creek, a space on it, which I computed as not less than four feet square, was studded with Papilios as thick as they could stand; when they rose it was like a cloud: nine-tenths of these were *turnus*. Allowing one square inch to each butterfly, and this is ample, there were upwards of 2000 butterflies in that mass, and I passed lesser groups with every mile as I rode; so that the total absence of the species this year is remarkable. It would seem possible that the extreme mildness of last winter allowed of the existence or activity of enemies (insect probably) who sought out and destroyed the *chrysalids*, but why *ajax* should have escaped is beyond my conjecture."

This assembling of butterflies in particular spots in large numbers, rising simultaneously into the air when disturbed, and settling in the same place, is the normal action of butterflies just on the eve of migration, and the total absence of *Papilio turnus* the following year is the natural result of such migrations, no *ovæ* having been deposited previous to departure, thus those parts of the country to which these swarms had migrated would have a corresponding increase in numbers. In the summer of 1857, a great number of the Purple Emperor (*Apatura iris*) visited England. They swarmed in the streets and suburban gardens round London; they might be seen drinking in the puddles in the streets, and hovering over flowers in the gardens; they were evidently tired and starved, and so far from a twelve foot pole with a net at the end being required to dethrone his majesty from his lordly oak, he could be knocked down with a hat, and boys were vending them all crushed and broken for what they would fetch.

Where did they come from? *A. iris* is not a common insect at any time, even in its favorite haunts. Evidently they were strangers—emigrants—they had crossed the sea from their far off home in Germany, to be knocked to pieces in London streets—*sic transit gloria mundi*.

4. Holding over or retardation of development is one of those curious phases of insect economy which has never been satisfactorily accounted for. It is a well known fact among English Entomologists that the Death's-head moth (*Acherontia atropos*) is very apt to remain two or three years in the *pupa* state, therefore they subject them to heat in order to hasten their development. But even with this help, some of them will still remain in *pupa* for one or two years. At a meeting of the Entomological Club of the American Association for the Advancement of Science 1876, "Canadian Entomologist," v. viii p.p. 182-183.

"Dr. Morris asked if any of the gentlemen present who were in the habit of raising *larvæ*, had made observations in reference to the length of time the development of the perfect insect may be retarded. He stated that three or four years since he had placed a number of cocoons of *S. cynthia* on a shelf in his house, and that after lying there all that time, some of them had this year produced the perfect insect. Dr. Hagen referred to an instance related by Kirby and Spence (7th Edit. p. 121.) where a beetle (*Buprestis splendida*) was ascertained to have existed in the wood of a pine table more than twenty years."

At p.p. 138-139 vol. ix., Canadian Entomologist, J. A. Moffatt writes:—

"On the 24th September, 1875, I took a great many large caterpillars of a reddish buff colour, with a dark dorsal stripe, feeding on the willow. They soon went down to the soil and spun themselves up in hard brown cocoons, when I put them away for the winter. In the spring of 1876, I brought them to the heat, and after waiting some time and nothing appearing, I opened one of them and found the caterpillar alive and as fresh in colour as when it first spun up. In this condition they continued until the fall, when I again put them away for the winter. In the spring of 1877, I again examined them and found them fresh and with signs of life, but as the season advanced, I opened some of them and found them dead, and the remainder having assumed a shrivelled look, I laid them aside as hopeless. On the 17th June, my attention was attracted by a scratching noise, which I found came from these cocoons, which were now reduced in number to six. On lifting, I found one of them rattling and shaking with great vigour; I returned it to the box and waited three days; when nothing appearing, I broke it open and a fully developed fly walked out in a very feeble condition, its length was 1 inch; expanse 1½ inch; head, thorax and legs black; antennæ and feet yellow; abdomen brown. A yellowish spot between thorax and abdomen; wings light smoky."

From the foregoing, it may be deduced that although a certain number of *larvæ* may be subject to the same conditions, yet that the result will not be the same individually; as

seemingly each has its own constitution and measure of vital impetus, and no external conditions (short of accident or actual destruction) will cause divergence therefrom; and in this we see a wise provision of nature, as, if all the brood of these large and conspicuous insects were to emerge at one time, their chances of extermination would be much increased. But by a portion holding over and only a sufficient number being developed to continue the species, without becoming unduly conspicuous, a reserve is maintained for any eventuality. It is remarkable that this peculiar property is only possessed in a marked degree by the Sphingidæ and Bombycidæ.

5. Occasional visitants are those which by force of winds are blown upon our shores. Instance that magnificent insect (*Chærocampa nerii*) which has been taken in England at long intervals, and its *larva* at still longer; but from the fact of its having been taken in both the *larva* and *imago* states, it must rank as a British insect. There is no doubt that it flies across the channel, as it is always taken on the south or south-east coast. As the French variety of the common goldfinch, (*Eringilla carduelis*) in the spring and fall, flies across the channel to the same coast to feed and returns on the same day, there can be no reason why so large and strong winged an insect as *C. nerii* should not accomplish the same journey, especially when attracted by light; but it must always remain a rare insect; its natural food-plant (*Nerium oleander*) being well nigh unattainable, although it will feed on the vine. Having now brought this article to a close so far as my data and space will permit, I must leave it in the hands of others to furnish their quota of information on this abstruse subject; being a firm believer in the Caxtonian aphorism—That every man of sound brain, whom you meet, knows something worth knowing better than yourself.

RICHARD SHIELD.

Montreal, April, 1883.

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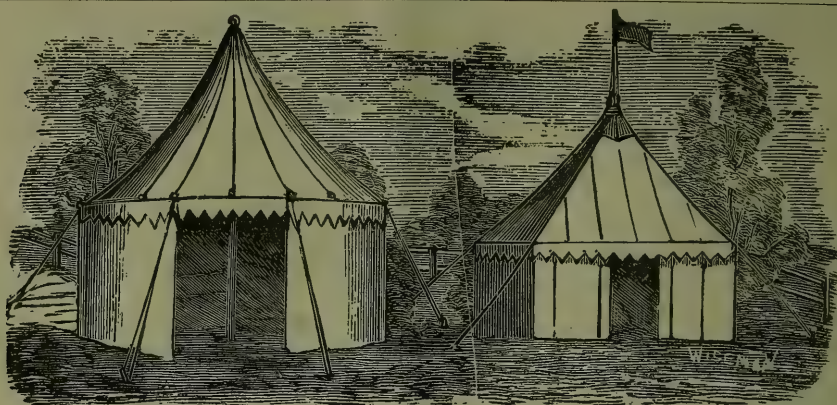
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MONTREAL, MAY, 1883.

VOL. III.

WILLIAM COUPER, Editor.

TO CORRESPONDENTS.

We want a continuance of original communications relative to Canadian Natural History, and results from the use of the Rod and Gun, which are always welcome; but it is necessary that manuscripts should be in our possession before the beginning of each month.

COOPER'S HAWK.

(*Accipiter Cooperi*)

An adult female of the above was sent to us by Mr. Woodward, U.S. Vice-Consul at Coaticook, P.Q. On dissection, a full developed soft-egg was found in the ovarium. It appears that the bird was caught by a man who brought it to him in a small wire cage. From these facts we may safely record this hawk as nesting in April in the Province of Quebec.

BROAD-WINGED HAWK.

Buteo Pennsylvanicus

Mr. Woodward, of Coaticook, sent us a female of this species lately; it, also, indicated that it laid its eggs in April, and doubtless nests in the Province of Quebec. The egg of this Hawk is sold to collectors, from \$1.00 to \$1.25.

A YOUNG WEASEL.

On the 18th instant, a small Weasel was brought to me, which was caught while being carried in the mouth of the parent, as a cat is seen to carry its kitten. This fact is new to me, but it may, however, have been noticed by others. The body of this young one is only four inches in length; tail, two inches, and the fur is much finer than in the adult. The dress is in accordance with the adult in summer.—C.

HOW TO LOOK FOR COCOONS OF OUR LARGE MOTHS.

There are some beautiful large silk spinning moths found in Canada, the caterpillars of which feed on various forest and cultivated trees. By obtaining cocoons of these moths, the perfect insects will be procured if the chrysalides are living. About the end of April I collected ten fresh cocoons of probably three species within a space of four acres on Mount Royal. The most common cocoon is oblong, generally spun within a leaf, and they are found attached to twigs about a foot or two above the ground. They are covered with snow in winter, but by careful search they may be easily seen in April or the early part of May. I have found several cocoons of this species destroyed by mice this winter. It is called the Polyphemus moth (*Teia polyphemus*). The most productive localities to find these cocoons are in scattered underbrush partially shaded by large trees. Another oblong cocoon, that of the most beautiful of our large moths (*Actias luna*), is generally found in the spring on the ground under butternut trees. The caterpillar of this moth fails to make a firm attachment to the tree, therefore the cocoons drop to the ground with the fall of the leaf. Although butternut trees are abundant on the Island of Montreal, the *luna* moth is uncommon. The next cocoon is a large one, generally found on trees at various distances from the ground. It produces the largest of our nocturnal moths (*Platysamia cecropia*). There is also another almost similar cocoon rarely found in the vicinity of Montreal, which produces an allied form called (*Platysamia Columbia*). These species are all worth looking after, as they are magnificent insects and the blending of their colours would charm the eye of any artist or lover of nature. The last rare one occurring near Montreal is the Prometheus moth (*Callosamia promethea*), whose caterpillar seems to be a good architect, as the cocoon is firmly attached by a strong silken band to the twigs of trees, from which they are pendant. When they are discovered it will be necessary to climb the tree to procure them.—C.

ENTOMOLOGICAL.

SIR.—In justice to yourself, I desire to make in your columns a brief statement regarding the beetle which I mentioned under the name of *Hylobius stupidus*, in a paper on some "Coleoptera injurious to pine," which was published in Transactions No. 2 of the Ottawa Field Naturalists' Club. On page 83 of *The Canadian Sportsman and Naturalist*, you stated that:—"We have no knowledge of this insect, and never met it under the name of *stupidus* in Canadian collections." My defence (page 101) was to the effect that the name was given in the lists of the Entomological Society of Ontario, and that there was a specimen so labelled in the collections of the late Mr. Billings. I have recently been able to have many of my beetles determined and in regard to the species in question am informed by Mr. J. B. Smith that it is only a variety of *H. pales*, being, "the form going in Canada under the name of *H. stupidus*." He adds that he has been able to make up a full series from one form to the other, and I shall endeavor this season to make up a similar series, if the intermediate forms are to be obtained here.

A couple of words have apparently been dropped from my paper on "Causes of rarity in some species of insects" in your last number. On page 225, in line 21 of second column "man" should be inserted before "now" and in the last line of the same column "been" should be inserted after "already."

W. H. HARRINGTON.

Ottawa, 25th April, 1883.

NOTE.—The insertion of *H. stupidus* in the Canadian list of Coleoptera, may have arisen from correspondence between the Entomological Society of Ontario and the late Mr. Billings, who probably supplied the name. *H. pales* varies in size; I remarked it in Toronto years ago, but as I noticed similar deviations among other genera of Coleoptera, it did not occur to me to prepare a series of the variable species. *H. pinicola*, Couper, is our most northern form of *Hylobius* and may not be found south of the latitude of Quebec. The word "man" appears in your copy, but "been" does not. We will be more careful in future. —C.

THE SAMSON FOX.

Montreal, April 16th, 1883.

SIR,—I would feel greatly obliged if you could give any information respecting the

"Samson" Fox. Why so called? What causes its peculiar difference from other Foxes? How long has the name been known?

Yours truly,

HORACE T. MARTIN.

NOTE.—Messrs. Martin & Co., furriers of this city, have lately purchased a number of skins of adult foxes, known in the townships as the "Samson Fox." This peculiar variety is minus the long glossy hair of the common fox, but it is abundantly covered with soft hair, having a peculiar singy appearance, which is generally seen in young foxes. It is said to occur in one locality, where it is called by the above name; but we are not prepared to say that it is a descendant of one of the three hundred foxes mentioned in the xv. chapter of Judges, which Samson caught and "took firebrands and turned tail to tail, and put a firebrand in the midst between the tails, And when he had set the brands on fire, he let them go into the standing corn of the Philistines, and burnt up both the shocks and the standing corn, &c." Perhaps some of our correspondents may throw some light on the "Samson Fox." We are aware that the common Red Fox has permanent varieties in North America; the silver-grey and dark-grey animals are merely fur changes of the common species. The result is said to occur through segregation, for instance, the Island of Anticosti, where the silver variety is more abundant than in any other locality in the North where the common fox is found. All our wild American quadrupeds are, however, subject to variation in fur; we have grey and black varieties in the Ground Hog or Woodchuck, and, in the neighbourhood of Quebec, muskrats are sometimes found perfectly white; but they are not albinos, the eyes are hazel like the ordinary rat. Occasional white specimens of the common Virginian deer are shot in Canada, and, during some seasons piebald varieties of the Black Squirrel have been caught in Ontario. Regarding the Black and Grey Squirrels, Can-

adians are frequently in ignorance, claiming that they constitute two distinct species, while they are actually the same animal; the former merely forms the variety, as is seen in the Ground Hog, Muskrat and other native quadrupeds.—C.

THE CANADA LYNX.

SIR.—I notice in your number for June, 1882, that a subscriber corrects the assertion of Dr. Garnier, that the Canada Lynx, (*Lynx Canadensis*), "has never been seen south of the Ottawa River" in Ontario. Why Sir, the Canada Lynx, notwithstanding the cutting away of much of our native forests, is still quite common even within five and ten miles of the city of Ottawa. Not more than four years ago, two of these animals were killed within two miles of the western limits of the city. Wherever there are large forests in Ontario, the Canada Lynx may still be found, and will, doubtless continue to abound in its old haunts until the forests shall have disappeared.

Yours truly,

WM. P. LETT.

Ottawa, April 27th, 1883.

NEW BRUNSWICK NOTES.

LOON. (*Colymbus torquatus*.)

In my catalogue of the birds of New Brunswick it is stated, "Two races of Loon spend the summer in New Brunswick and breed here. They have plumage of similar colors and markings, but one is smaller than the other, being some six inches less in length. The larger bird is common on the lakes and rivers in all sections of the Province, seldom seeking the salt water until the rivers freeze over, while the smaller is rarely found away from the sea-shore, and, though only seen occasionally in the Bay of Fundy, is quite abundant on the Gulf of St. Lawrence."

A correspondent has asked me to send a further account of these birds to the *Canadian Sportsman and Naturalist*, but I have as yet discovered nothing additional concerning them though observations made since the above was first written have confirmed the opinion then advanced.

It has long been well known that Loons vary very considerably in size. In Baird's report of 1859 the length is given as thirty to thirty-six inches, and Allen in "Mammals

and Winter Birds of Florida," (1871) gives a long list of varying measurements, but, I believe it had not been previously noted that the smaller birds display a preference for the salt water while the larger race is usually found during the breeding season on the lakes and streams. I have not seen a nest of the salt water or Sea Loon but the fishermen on the Bay of Chaleur, who are familiar with the appearance of the two races, and readily distinguish them, told me that the Sea Loons build in the marshy spots along the coast.

These fishermen have good reason for remembering the smaller birds as they destroy numbers of fish after they have been caught in nets or weirs, though the Loons are themselves sometimes caught in the nets while thus poaching; I remember on one occasion seeing six brought on shore in one boat. A correspondent inquires if the smaller of these two races may not be the black-throated or Arctic Diver, but such is not the case. In immature plumage the two species bear considerable resemblance but the mature birds are easily distinguished by the difference in coloration and in size.

The Black-throated Arctic Diver was well named *Arcticus* for they have been seldom seen south of Hudson's Bay, though a few examples, in immature plumage only, have been taken along the Atlantic Coast adjacent to the mouth of the Bay of Fundy.

MONTAGUE CHAMBERLAIN.

St. John, N. B.

THE WILD OR PASSENGER PIGEON.

Ectopistes migratorius.

DEAR SIR.—Would you allow me, through the medium of your columns, to ask whether it is a fact that this bird which until 1850, in the spring, was seen in swarms all round Quebec, lighting occasionally on the glaciers—was also abundant in the woods of Chateauguay, not far from Montreal. I was told by a credible person that as late as 1851, there was a pigeon roost, at a place called the *Four Corners*, in the mountainous back of Chateauguay, where their numbers and flight quite realised the description Audubon has left us of the wild pigeon roosts of Kentucky. We scarcely see one in a year round Quebec at present.

J. M. LEMOINE.

Quebec, April, 1883.

THE ACADIAN SCIENTIST.

We have received No. 4 of this magazine, which is issued in a new and handsome dress. The matter is both interesting and instructive, and we have no doubt the improved appearance of the serial will conduce to its success.

THE LOGGER-HEAD SHRIKE.

Lanius ludovicianus, Linn.

On the rising ground, in the fields behind the village of Lachine, many large thorn trees have been growing for years past, and the Loggerhead Shrikes have, doubtless, for a long time made the place a resort for the prosecution of their peculiar habits, as also, to rear their young. They generally arrive in the above locality early in April, as the foundation of the nest is laid about the 18th, and the first egg is probably deposited on or about the 24th of the latter month. A nest of this species, containing three eggs, was found in a thorn tree at Lachine, on the 30th of April. The parents of this nest were shot in its vicinity, before the nest was discovered, but proof of this was the finding of a fully formed egg on dissecting the female. The nest is bulky and warmly constructed, with little pretension to architectural beauty, as it is mainly formed exteriorly of withered twigs of thorn, stalks of weeds intermixed with horse hair, cotton rags, cord, thread and wool. The interior, or nest proper, is extremely neat and comfortable, being evidently formed for warmth. It has a diameter of three inches, with a depth of two and a half inches, while the wall is a little over one inch thick, thus forming a much larger nest than that of the Redbreasted Thrush or Robin. The interior is lined with wool, horse hair, and a quantity of feathers from domestic fowl. There is but slight difference in the nuptial plumage of the sexes. I notice that the female has but one central feather in the tail, while the male has two; the tail feathers on each side of the latter are pointed, with white at the apex. The white band on the wing of the male is

wider than that of the female, and his wing coverts are generally whiter. The throat and under parts are dirty white in both sexes, showing no indication of the dark, wavy lines so conspicuous in their young. I am astonished that this bird should be taken for the Great Northern Shrike, which is larger and has a more prominently toothed beak. The Loggerhead is weaker in form, besides, the marking of the two species are so distinct, that the merest tyro who studies our birds should not mistake them. In connection with the above, I have selected Dr. Elliot Coues' charming and accurate description

"Of Shrikes in a State of Nature,"*

"We will here take up the Loggerhead and the Northern Butcher-bird together—for they are as one in all essential particulars—reserving for after consideration the few points that mark their respective histories. Looking at the bold, defiant aspect of the Shrike, however inadequately portrayed in the accompanying sketch, we cannot fail to recognize a bird of extraordinary spirit,—the stout, hooked beak, combining claw and tooth in one murderous instrument, is surely the weapon of a Hawk, or other rapacious bird! In one sense we certainly have here a bird of prey; yet, if the portrait were finished at full length, we should find the feet as weak and harmless as those of a Thrush or Sparrow, instead of being furnished with the talons which confer such a raptorial prowess upon the Falcon, the Eagle, and the Owl. If, furthermore, we should examine the anatomy of the Shrikes, it would be merely to discover that the entire structure of the internal organs is modeled after a strictly Passerine type. Though the bone and muscle indicate unusual strength and vigor, the beak itself is the seal of the Shrike order—a mark as plain and unmistakable as that which stamps the tribes of Israel, wherever dispersed over the earth—the symbol of a spirit as bold and reckless as ever dwelt in the breast of any one of the Hawks called "noble" in the olden time, when falconry beguiled the leisure hours of kings and royal mistresses. Matching the bravest of the brave among birds of prey in deeds of daring, and no less relentless than reckless, the Shrike compels that sort of deference, not unmixed

* Birds of the Colorado Valley, part 1st, 1878.

with indignation, we are accustomed to accord to creatures of seeming insignificance, whose exploits demand much strength, great spirit, and insatiate love of carnage. We cannot be indifferent to the marauder who takes his own wherever he finds it—a feudal baron who holds his own with undisputed sway—an ogre whose victims are so many more than he can eat, that he actually keeps a private graveyard for the balance. Lest such a picture may seem exaggerated, let me make good my statements. The Shrikes food consists of such birds, quadrupeds, and reptiles as he can capture and overpower, together with insects, chiefly of the larger kinds, and especially grasshoppers. These he pursues, attacks, and destroys quite as a Hawk does; and he has the very curious habit of impaling their bodies upon thorns. Numberless illustrations of the spirit the Shrike displays might be given. Though smaller in stature than the least of our Hawks, he habitually destroys birds and other animals as large as those upon which some Hawks subsist, and quite as capable of resisting attack. Appropriating to himself sufficient territory, where no other bird may safely intrude, he becomes the terror of the neighborhood; and woe to the unlucky Finch or Warbler that ventures to trespass on these hunting-grounds! Like a veritable sentinel on guard, the Shrike stands in wait upon his chosen post, ready to pounce with unerring aim upon the first little bird that may dare to rustle in the nearest bush. His impetuosity and temerity are well displayed in the onslaught he sometimes makes upon cage-birds hanging at our windows; and he has even been known to enter an apartment, bolting through the open sash with perfect recklessness. Dr. Brewer narrates the case of a Shrike who dashed at a Canary without perceiving that the window was closed. He struck the glass with all the momentum of his impetuous flight, and fell to the ground, stunned by the force of the blow.* He revived, however, and was kept in confinement for some time, during which he continued sullen and fearless, and greedily devoured small birds which were offered him for food, though refusing to eat

*A similar instance of birds' inability to see glass is within my own experience. Having on one occasion netted a large lot of Sparrows and other small birds alive, I turned them loose in a vacant room. In their terror and eagerness to escape, almost every one of them dashed against the window in the course of a few moments, and successively fell stunned and slivering to the floor—some to recover, others, more seriously hurt, to die shortly.

raw meat of other kinds. Notwithstanding the protection that a cage affords, Canaries are not seldom killed by the Shrike unless speedily relieved from his attack. Sometimes they are so terror-stricken that they fall fainting to the bottom of the cage; but they oftener flutter and dash themselves against the wires, till seized by the bird of prey, who scalps them, breaks in their skull, or takes their heads off. The small birds that the Shrike destroys in a state of nature are either captured at a single dash, or caught in open chase, and killed with a blow of the beak. They are then devoured upon the spot, or carried to the "cemetery" and stuck upon a thorn, as I shall presently describe with more particularity. As if conscious of his prowess, the Shrike shows little fear in the presence of man. Under some circumstances, indeed, I have found a Shrike so wild that my endeavors to obtain a shot were unavailing, but the very opposite is oftentimes the case. You may enter the thicket the Shrike has chosen as his hunting-ground, and the bird will regard you with contempt, returning your regard with a gaze as steady and unflinching as if he were the better man of the two and knew it. At such a time, you will have a good opportunity to observe the easy nonchalant air with which he asserts himself. For all that the Shrike is such a gallant marauder, it must not be inferred that he is always on the war-path, intent on prodigies of valor. The doughtiest knights lay aside their armor at times, and the Shrike is fond of his ease in the intervals of his piratical enterprises. At such times, you may observe him lounging about with his hands in his pockets, so to speak, and nothing on his mind, when, as you approach, he will turn his head toward you with languid curiosity, just for a moment, and then dismiss you from further consideration. Sometimes you will see him ready for business, scanning the neighborhood closely from his watch-tower on the topmost twig of some bush or sapling, where he stands stiffly, bolt upright, like a soldier on dress parade, ready to move at a moment's warning. He makes a rather imposing picture just then in his uniform of French gray with black and white facings, which fits him "like a dream": the next instant—whish! he is gone, and the piteous cry of the Sparrow in yonder bush tells the rest of the story. A good deal of the Shrike's business, however, is neither brilliant nor romantic. The green sward below his

perch harbors a great many field-mice of different kinds; according to the lay of the land, and he has nothing to do but drop quietly down upon these little innocents. At certain seasons of the year, moreover, the fields swarm with grasshoppers, of which the Shrike is very fond, as he is also of spiders, beetles, caterpillars, and, in fact, almost any insect. In July and August, I have frequently seen Shrikes skipping about in old weedy fields, apparently amusing themselves; but I generally found, on watching them closely, that they were hunting for the 'hoppers, some of which they devoured then and there, after beating off their long hind legs, while others were carried to some tree near by and duly impaled. The tradition that the Shrike destroys exactly *nine* victims a day, and which is preserved in the name "Nine-killer," still sometimes heard, is very ancient, and I do not know to what source it may be traced back. It is a staple myth, which has been current for centuries in folk-lore, and may be found related with gravity in some of the older treatises. I should very much like to learn its source and the circumstances under which it was first stamped with authority. The Shrike's most notable trait,—the habit of keeping a butcher-shop, where the bodies of the slain are exposed,—has also been remarked for many hundred years, and various ingenious theories have been proposed to explain what has been considered a wholly exceptional and anomalous habit. When fully considered, however, I think it will be found less singular than it at first appears to be. The Shrike is a veritable "butcher bird," in as far as that title may be given to a bird who kills what he does not eat, and his operations in this line have been made the subject of repeated observations, so that we are in possession of all the facts in the case. The birds, mice and insects are sometimes impaled alive, and left to perish miserably; sometimes their dead bodies are similarly stuck upon the sharp twigs. The shambles of the pitiless butcher may be found in some thorny tree or bush, which in the course of time presents a curious spectacle, with the numerous creatures sticking here and there. Quite a museum of anatomy is sometimes thus brought together in one place, but as the Shrike is not particular about making a collection of curiosities, we may recognize his work in single specimens scattered anywhere about fields and shrubbery. Some have surmised that the

bodies are stuck up in this conspicuous way as decoys, to allure other victims within reach. This "bait theory" in its fullness is set forth in the article noted below,* which may be taken as a typical illustration of this way of thinking. Mr. Heckewelder represents that whereas the Shrike lives entirely upon mice and small birds (which is not the case), and whereas the grasshoppers are all stuck up in natural attitudes as if they were alive (though they are not so fixed, in fact), therefore this is done to decoy birds that feed upon grasshoppers; for if this be not so, and if the insects be stored up for future use, how long would one or even two grasshoppers last a Shrike? But if the intention be to seduce little birds, then that number or half as many, or fewer still, would be good bait all winter. And so forth. Wilson, with his usual good sense, has disposed of this theory, "pretty fanciful," as he calls it, in a rather satirical as well as practical way. He notes that grasshoppers themselves are the favorite food of the Shrike, and that they would make the very poorest bait for our small winter birds, which are mostly granivorous; that there is no necessity for a stratagem of such refinement and cruelty, as the Shrike is abundantly able to capture all the birds he wants in open chase; and, finally, that the Crows and Jays may be supposed with equal probability to be laying baits for mice and flying squirrels, when they hoard up their corn. The bait theory may be safely discarded. Another idea is, that the Shrike avails himself of a thorn to secure his prey whilst he is devouring it, just as a Hawk or Owl would use his claws for the same purpose; and that this has become such a habit that the Shrike may spit, and then leave untouched, the carcases he does not wish to devour. Undoubtedly, the bird's feet and claws are weak in comparison with his stout beak, large head, and powerful muscles of the neck and breast; but no one can doubt the bird's ability to hold his prey securely while he tears it to pieces. Any one who has had a Shrike scratch him should be satisfied of this. There is another notion, that the Shrike impales his victims in the excess of his cruelty, from sheer love of inflicting pain. But this argues a moral obliquity which we can ascribe

*1799. HECKEWELDER, J. A letter from Mr. John Heckewelder, to Dr. Barton, giving some account of the remarkable instinct of a bird called the Nine-Killer [*Lanius borealis*]. (*Trans. Amer. Philos. Soc.* iv. 1799, pp. 124, 127.)

to no bird,—if indeed any moral quality whatever can be discovered in their actions. It is true that a cat tortures a mouse, and seems to delight in inflicting pain. I cannot but believe, however, that the cat is unconscious of the mouse's misery; that what she enjoys is not the suffering of her victim, but the exercise of her natural powers. Excessive destructiveness, as when cats or weasels kill more animals than they can devour, is very frequent; but it implies neither cruelty (in a moral sense) nor mere wantonness; it is a legitimate result of their rapacious nature, and for the rest, the animals may have a natural preference for some part of their prey, as the blood or brains, to secure enough of which they take more lives than they would if they fed upon the whole of the flesh. In the case of the Shrike, moreover, it is certainly the rule that the bodies are impaled after death, not while still struggling in the clutches of the captor. Analogy goes for something in natural history; and the analogy of the Shrikes' shambles to the storehouses of various birds is too obvious to have escaped attention. I think the right clue to the curious habit is thus found. Many birds lay up stores of provisions, like mice and squirrels. Among those of this country, birds of the Corvine tribe, as Crows and Jays, are conspicuous in this respect. The 'theivishness' of the Raven and Magpie in confinement is notorious; but it is simply the excessive development or perversion of their habit of hoarding food that makes them steal and hide away articles of no possible use to them, such as jewellery and silverware. The Californian Woodpecker offers another notable instance of stowing up food, as it does with infinite pains. I have seen branches of trees studded thickly with acorns, each stack tightly by itself in a little hole bored by the bird for its reception. In other instances, the same bird has been known to insert acorns in the natural crevices of wood. These facts relate indeed only to the hoarding of fruits or inanimate objects; but we see a still closer resemblance to the habit of the Shrikes in the curious practice of the Red-headed Woodpecker, a versatile bird, one of whose singular traits has just been told by Mr. H. B. Bailey, of New York. This writer narrates* that a correspondent of his observed a Woodpecker's frequent visits to an old oak post, which on examination was found to present a large

crack, in which the bird had inserted about a hundred live grasshoppers, and wedged them in so firmly that they could not escape. Some farmers showed him other posts which had been put to the same purpose. This was certainly a laying-up of stores for future use, for the writer states that the Woodpecker later began to eat his hoard, and that at length only a few shrivelled dead 'hoppers were left. Wilson has observed, furthermore, that Jays and Shrike retain similar habits in confinement; the Jay filling every seam and chink in his cage with grain and bread-crumbs, and the Shrike 'nailing' meat, insects and the bodies of such birds as may be thrown to him. I have had my doubts in this matter; and still, after observing Shrikes carefully in various parts of the country, must admit that the matter is not finally narrowed down to a simple question of hoarding. Too many bodies are stuck up, too promiscuously, and too few are made use of afterward, for us to consider it simply as a piece of the bird's thrift. I suppose the habit of impaling, considered simply as such, and without reference to ulterior purposes subserved, may have been gradually acquired as the result of the Shrike's physical organization—the relatively little force of grasping with his feet he possesses, in comparison with the power of his beak. The talons of a Hawk, for example, are very effective instruments, not only for striking and killing prey, but also for holding it while it is torn by the beak. The Shrike has much less prehensile power; it strikes with the beak, and devours as best it may. A Nuthatch, for example, will take an acorn to a crack in the bark, and wedge it there while it hammers away at it with the bill. Such a habit of fastening its prey having been acquired, as something entirely unconnected with the storing up of provisions, may then have been turned to account as a means of securing its prey for future use, and thus become the usual way of making a hoard. It is certain, however, that the Shrike makes no great use of his larder; and that he sometimes impales and sometimes not, apparently at his caprice. He is just as likely to eat a grasshopper as to stick one. He spits his victims as often when food is plenty as when it is scarce; and the majority of the bodies gibbeted are left to wither and be blown away, or be eaten up by the bugs. On one occasion, when I watched a Shrike closely for some time, I saw him impale a number of grasshoppers in

* Bull. Nutt. Ornith. Club, iii. no. 2, April, 1878, p. 97.

succession, and continue foraging for more, which he ate upon the spot as soon as caught. I never witnessed the act of impaling a bird or mouse, but I suppose it would be the same as for a grasshopper; and in the instance to which I refer the bird worked the unfortunate insect on the thorn with his beak, pushing and pressing it down with various strokes, until it was fixed to his satisfaction. But we have not yet finished our study of Shrikes—having still to consider their flight, their voice, and especially their domestic habits. There are two very different birds of this country which the Shrike resembles in the relative proportions of the wings and tail, as well as in the general conformation of the body. These are the Mockingbird, *Mimus polyglottus*, and the Sharp-shinned Hawk, *Accipiter fuscus*. Now if we picture to ourselves a bird whose attitudes, movements, and especially whose mode of flight, may partake on occasion of those of either of the birds just named, we shall have no wrong idea of the varied actions of which the Shrike is capable. The close general resemblance of the Shrike to a Mockingbird is really remarkable. The two are about of the same size, shape and color—in fact, it is not the easiest thing to tell them apart at a little distance, especially when they are flying. The similarity has long since been duly noted and commented upon; in fact, Swainson went so far as to make it the basis of a strong argument in favor of his fanciful quinarian theory of affinity. The mode of flight, then, of the Shrike, under ordinary circumstances, is necessarily much the same as that of a Mockingbird, being light, wayward and even undulatory, when the bird is simply moving about at his ease, or foraging for the humbler kinds of prey that contribute to his support. Yet even under these conditions there is a certain dash about it, giving hint of the spirit he can infuse into his actions when he calls his powers to their full display. Then, in the manner of the Hawk, his flight is strengthened, firmly sustained for long distances, and on occasion quickened at a prodigious rate; the climax of this exploiting being reached when he plunges headlong after his prey, hurtling like a very Hawk. He is said at times to hover in the air, just over his intended victim, as if taking aim before he stoops to his quarry; but this can hardly be a characteristic habit, or it would not have escaped my attention. I do not remember to have ever witnessed it,

though it need not be doubted that the action is sometimes performed. When not on the wing, we may observe in the Shrike's habitual attitudes the same blending of Mockingbird and Hawk; or rather, the transition from one to the other, when his air of indifference and rather 'slouchy' appearance give way to the martial bearing which indicates that his attention is riveted upon intended conquest. So versatile and animated a spirit as that which the Shrike possesses necessarily seeks expression. There is no reticence about this bird, whose harsh outcries we may in turn interpret to mean anger and exultation—the challenge and the conquest—while the course of his passionate life runs on in almost incessant warfare. These notes mean much the same as the stridulation of the Kingbird, in whose temper there is much of kinship with the Shrike, both being impatient and aggressive birds. But notwithstanding the magnitude of his exploits, the Shrike is not a very lofty character after all; he picks many a needless quarrel with his fretful fellows, and all the petulance of a wilful, badly-governed disposition may be traced in some of the harshest of the cries that greet our ear. It is easy to say, and quite safe to make the assertion, that nothing more unmusical than the Shrike's notes is often heard; and it is usual to compare the voice of this bird to the creaking of a sign-board, or the grating of any other rusty hinge. But I suspect, though I am not a competent witness in this case, that those are right who ascribe to the Shrike some powers of song, limited though they be. Technically speaking, the Shrike is as truly Oscine as the Mockingbird itself; and no *a priori* reason appears why his notes should not at times be modulated with a tuneful quality. Several authors have in fact asserted such to be the case, protesting fairly against any sweeping denunciation in this particular. Thus, in speaking of the Great Northern Shrike, Audubon says:—This valiant little warrior possesses the faculty of imitating the notes of other birds, especially such as are indicative of pain. Thus it will often mimic the cries of Sparrows and other small birds, so as to make you believe you hear them screaming in the claws of a Hawk; and I strongly suspect this is done for the purpose of inducing others to come out from their coverts to the rescue of their suffering brethren.

(TO BE CONTINUED.)

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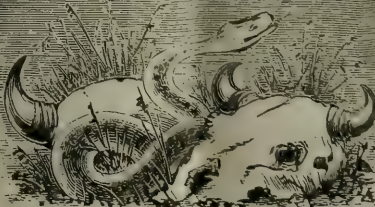
THE

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No. 6.
1883.

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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 6.

MONTREAL, JUNE, 1883.

VOL. III.

WILLIAM COUPER, Editor.

A NEW WORK ON THE BIRDS OF CANADA.

We have received a copy of "Les Oiseaux du Canada," by Mr. C. E. Dionne, curator of the Zoological Museum of Laval University, Quebec. It is a neatly printed volume containing nearly three hundred pages and several wood cuts. The author has adopted the classification and nomenclature of Doctor Coues, and gives a short description of each species with notes upon their distribution, etc. From the title of the work it is evidently intended not to be local; we would like to have seen a more complete account of the birds of the Dominion, many species occurring in Manitoba and other western portions not being included. In note to Brown Thrasher, Mr. Dionne states: "This species is probably not found in Quebec though common in Ontario." This is a mistake, as during the past few years these Thrushes have been abundant in the neighbourhood of Montreal and breed here regularly. The Yellow-throated Vireo is also rather common here in the spring, and the Loggerhead Shrike very common, breeding in suitable localities throughout the island. The Meadow Lark is also found in many places in the Eastern Townships. Numerous other errors of distribution also appear but we are not surprised at this, and must expect some years to elapse before local ornithologists will study up the birds occurring in their respective localities and furnish material from which can be compiled a standard work upon the subject.

With regard to the Cow bird, Mr. Dionne states: "Quelques naturalistes ont affirmé que l'Étourneau ne construisait point de nid, qu'il déposait furtivement ses œufs dans des nids de Pinsons, de Fauvettes, etc. C'est une erreur, comme le remarque M. l'abbé Provancher, qui a eu occasion de voir lui-même

plusieurs de ces nids et presque toujours dans les conifères. Il pond 5 ou 6 œufs bleu tendre, tachetés de roussâtre."

That this bird should have abandoned the habit of depositing its eggs in the nests of other birds and taken to nest-building, we are not prepared to credit. If Mr. Dionne can corroborate his statement, it will prove an interesting fact for ornithologists, if not, it is a serious mistake for a writer to make with regard to one of our best known birds.

THE FOX-COLOURED SPARROW.

During my summer visits to the Island of Anticosti and the north shore of the St. Lawrence, I have had many opportunities of watching this beautiful sparrow. In fact it was on the Labradorian coast that I first heard its delightful song, and although the notes are few, they are given in a sweet, clear, distinct tone; but when several males are responding, they seem to cheer and add life to their dreary surroundings; the call is certainly pleasant to the ear of man, more especially when he is alone in a region where the song of no other bird is heard. All this class of birds have their peculiar nuptial notes—that of the White-throated Sparrow is said to represent the words:—*Farmer-pay-the-rent-pay-the-rent*, while those of the Fox-coloured Sparrow sounds to my ear like, *O-dear-dear-pretty-pretty creature*. I do not think it has been found nesting in the Province of Quebec, west of Godbout. As far as I could discover, its summer retreat is in the bays of Anticosti and the woodlands skirting the north coast of the Lower St. Lawrence. It seldom nest on the ground, as those which I found were in small trees on the margin of rivers or creeks not far from the sea. Before the nesting season when pairing, the males will frequently fight as vigorously as the English house

Sparrow is seen to do in the streets of Montreal. While collecting insects at Ellis Bay Anticosti, two male Fox-coloured Sparrows were having a battle within a yard of where I stood, and they were so earnest in the affair that I caught them in my insect-net; they apparently had no fear of my presence. I gave the little pugilists their liberty, and in a few minutes afterward, both were singing as cheerfully as if nothing had happened.—C.

THE GOSHAWK.

(*Astur atricapillus*.)

A very fine adult female of this falcon was sent from Coaticook to Montreal, early this month, (July). We do not frequently see it in summer. It is generally more abundant between the months of October and January.

THE ENGLISH HOUSE SPARROW.

Dr. Elliot Coues, an eminent American ornithologist says that no step now likely to be taken can end in the extermination of these birds; they have multiplied so rapidly since their introduction on this side of the Atlantic, that it is useless to try the experiment. Some time ago the Corporation of Montreal were anxious to have the sparrows destroyed, suggesting poison as a means to kill them. They could never succeed by this mode, as the birds are now extensively distributed over temperate America, therefore a continual supply would come from adjacent cities and towns, and it would take years to get rid of them. The English Sparrow is preyed upon, since his introduction here, by cats, hawks, owls and shrikes; he survives, enjoying the climate and our habitations, and not particular as to the kinds of food he eats.—C.

MONTREAL BRANCH, ENTOMOLOGICAL SOCIETY OF ONTARIO.

The tenth annual meeting of this Society was held on the 8th May last, at the residence of H. H. Lyman, Esq., President. The

Annual Report showed that though the students of this branch of Natural History in Montreal are few in number, the interest of the meetings is well kept up. Six original papers were read during the year, and many observations on the insect life of Montreal stand on record in the minutes of the Society. The following gentlemen were elected officers for the ensuing year: G. J. Bowles, President; W. Couper, Vice-President; F. B. Caulfield, Secretary-Treasurer. Members of Council, H. H. Lyman, J. G. Jack, W. Shaw and H. Graves.

MR. WHITCHER ON FISH CULTURE IN CANADA.

We have before us, a long letter from Mr. W. F. Whiteher in "Forest and Stream," which is both astounding and instructive at this instant when fishculturists from all parts of the world are assembled at the Fisheries Exhibition in London, England. Of course Mr. Whiteher substantiates the fact that eggs can be artificially fecundated; that their *ova* have been successfully transported from America to Europe, and are there being developed into living fish. But "what remains yet to be done" is to convince the world that a proportion of such prolific hatchings and abundant distribution, commensurate to the prodigious numbers hatched and liberated alive, has reached maturity and reappeared in commercial and industrial channels as a commodity of trade and an article of supply to such an appreciable extent as the faithful are justified in expecting. The multiplication of the marketable food fishes, as evidenced by the actual catch, is what remains to be proved. There can, I presume, be no doubt, that the public tax-payer has a right to demand this proof; and Canada, Parliament and the press are already asking for it in somewhat impatient terms." It is not our wish to disparage Mr. Wilmot's enthusiastic efforts as a fish-breeder, but honestly speaking, Mr. Whiteher is correct in alluding to "prac-

tical results," when he says "the truest interest of the enlarged propagation of fish, and the immense increase of food which we anticipate from artificial methods and their auxiliaries, that we should now begin to consider seriously the economic as the chief of 'practical results.'"

Fish hatching commenced in Canada about fifteen years ago; now there are eleven government fish hatcheries, eight of which are occupied in developing salmon *ova* only; two are employed in hatching salmon, white fish and trout eggs, and one hatches whitefish and pike-perch, and the entire cost of these public establishments to date is \$259,400. We will look further into this matter in a future issue, but in the meantime it is evident that Mr. Whitcher has given a clear statistical statement showing that we have been wasting money without reaping the fruits.

PROTECTION FROM INSECT ATTACK.

Mr. J. A. Lintner, the New York State Entomologist has sent us a pamphlet wherein he propounds a new principle in protection from insect attack. He says "it will be readily conceded that the use of preventives, whenever practicable, is more economical, more effective, and often more convenient than a resort to remedies." His object is to prevent insects from depositing their eggs on their food plants, and he says it can be and has been done with perfect success in many instances. By applying to the plant or to the soil certain odorous substances which are disagreeable to the insect, and therefore to drive it away; contending that the larger proportion of the insect world are guided in their natural habits by the sense of *smell*. The popular idea that many insects attacking vegetation select their food plants whereon to deposit their eggs by the sense of sight is evidently erroneous, and not in accordance with his investigations. He has watched "the incomprehensible acuteness shown by an insect in the discovery

of the particular species of plant upon which alone the young caterpillars could feed, in the discovery of a single individual of a rare species occurring in a certain locality, and growing in such a manner as effectually to hide it from human observation. When its range of food plants extends beyond a species to all the members of a genus, how could it detect all of the greatly differing forms? When a still broader range embraces the several genera of an extended order, a still greater variety of form are presented, which the rude insect brain must group and classify, and claim within its province. How amazing such knowledge without previous instruction. It had no parents living as in the class of Vertebrates, which might teach it by example. It had no ancestors a whit wiser than itself from which to learn. The deposit of the egg in its place may have been but the second voluntary act in its imago life, regarding that of flight for the purpose as the first. Perhaps a plant from some distant shore, of which not one of its ancestry could have any knowledge, is brought within its range of wing; its flight is unhesitatingly directed to it, and its precious burden of eggs, without a shadow of mistrust, is at once committed to its leaves. Such knowledge has never been attained by our most distinguished botanists, and it is beyond the scope of human intellect. We have called its displays instinct, a word conveniently framed to cover manifestations in other classes of animated beings which we are utterly unable to explain. As a partial explanation of these wonders, it has been suggested that to the insect world may have been given senses differing in number and in kind from those that we possess. But all the wonderful phenomena attendant upon insect oviposition by selection, is readily explained under the supposition that it is guided and controlled by the sense of smell, and notwithstanding the laborious investigations in insect structure, conducted through a century by some of our most distinguished scientists, we are utterly

unable to point out with positive certainty the precise location and nature of the organs of smell." Among the odorous substances which Mr. Lintner mentions are, kerosene oil, coal tar, naphthaline, carbolic acid, gas-lime and bisulphide of carbon. These he says have been successfully used to change the natural odor of the plant with which the insect is familiar, and while the latter is neutralized, eggs will not be deposited on the plant, it will be preserved from such attack as effectually as if it were inclosed in glass." Mr. Lintner deserves our thanks for this contribution to economic entomology, and we trust that he will continue the experiments. It would be serviceable to Horticulture if some trials were first made on the insects infesting the fruit trees. By odorising the apple, pear, plum and kindred species during the season when their insect enemies are on the wing, some interesting and probably important discoveries may be made. We know that several of our injurious insects are not particular what kind of food they eat, and the checkmating of an insect enemy on one fruit producing tree may compel it to attack another of equal value, if its odor leads the insect to it. Instance *Telega polyphemus* which has been recorded by Mr. W. Brodie, of Toronto, to feed on forty-nine distinct plants. Can it be possible that plants belonging to the Orders: Tiliaceae, Rosaceae, Grossulaceae, Hamamelidaceae, Cupuliferae, Juglandaceae, Betulaceae, and Salicaceae, have similar odors to attract this moth? That insects possess organs of smell have been repeatedly illustrated, the difficulty is to discover their location. It is indeed curious to notice the mode in which some insects select food-plants for their progeny. They appear to go directly to the plant, but whether they discover it from odor or the sense of sight remains a mystery. Our experience is that when we visit a swamp in summer, female mosquitoes pounce on us greedily, but if a mixture of coal-tar and olive oil is rubbed on our hands and face, we remain there without being

annoyed by insect parasites. They will certainly come and touch us, showing clearly that they do so by means of sight, but they leave when the odor of coal-tar affects them. Mosquitoes are diurnal and nocturnal in their flight, and can be very vigorous during both times, alighting on your face at night, is evidence that their eyes at all events, are suited for daylight and darkness. Why is it that black flies which are so severe in open air in daylight, will not touch a person within a house? I have seen the panes of glass in houses on the Island of Anticosti, covered with these insects, but they did not annoy the people while inside the house. The eyes of the black fly are apparently intended for light alone, as they retire on the approach of night.—C.

THE COW BIRD.

Molothrus ater, Bodd.

More than usual interest is attached to the history of this bird from the peculiar habit possessed by it of depositing its eggs in the nests of other birds, leaving to them the duty of incubation and brood rearing. Although few ornithologists have witnessed a cow bird in the act of depositing its eggs, it is well known that this is accomplished in the ordinary manner, during the owners absence from the nest. The foster-parents selected are usually birds of a small size, and it is interesting to observe the actions of the various species to whose care has been confided the apparently not agreeable task of bringing up the offspring of this vagabond bird. Some species appear to view the introduction of the strange egg with more complacency than others. Dr. Brewer mentions a case in which a Red-eyed Vireo hatched three of these eggs, without laying any of her own, and as many as five have been discovered in nests of the Black and White Creeper and Towhee Bunting. It is seldom, however, that more than one egg is deposited in a nest, especially those of such small birds as the Warblers or Chipping Sparrow, this is usually laid soon after the completion of the nest, sometimes before the owners are ready to lay, in which case the nest is often abandoned. The Summer War-

bler although usually accepting the introduction of the strange egg, when some of her own have been laid, has frequently adopted the ingenious device of adding another storey to its nest, thus effectually getting rid of the obnoxious egg. I have also on one occasion found the nest of a Redstart so constructed, the lower storey containing a single egg of the Cow bird, and the upper four of its own. No further proof need be required of the antipathy of these birds to incubate eggs other than their own, and we cannot but admire the extraordinary intelligence displayed in thus burying the intruder, though the reason for their being compelled to accept a task so obnoxious remains as much a mystery as ever. It has been alleged with regard to the Cuckoo of Europe, whose habits are similar, that the eggs mature at long intervals, rendering it inconvenient for the bird to construct a nest and attend to incubation in the ordinary manner, thus justifying to a certain extent its conduct in depositing its eggs in the nests of other birds. However pretty, or true, this may be with regard to the Cuckoo, I do not think the Cow bird is less prolific, or regular in this respect than other birds. That they lay several eggs, and at ordinary intervals, can hardly be doubted from the comparative scarcity of the birds in some places and the number of nests found containing their eggs. Whether more than one egg is deposited in a nest by the same bird, it is impossible to state, the fact of finding a greater number does not prove them to have been laid by the same female, though from the similarity of the markings of different eggs found in the same nest, it has been thought that more than one has sometimes been laid by the same bird. The Red-eyed Vireo appears to show less concern about the reception of the egg than many others, and two eggs are frequently found in nests of this species. It has not been definitely stated by ornithologists whether the Cow bird removes the eggs of other birds in order to make room for her own. The Cuckoo is enabled to do this in the same manner in which she sometimes deposits them, by carrying in her bill, or feet. From the different construction of the bill of the Cow bird it would be impossible for it to convey an egg in this manner, yet I am convinced they sometimes either remove or destroy them, as it is very rare to discover a nest containing more than the normal number of eggs, including the Cow bird's. As tending to confirm

this opinion I will mention the case of a nest of the Red-eyed Vireo containing when discovered, two eggs, one of which was a Cow bird's; on visiting this nest three or four days later I found that the egg of the Vireo had been removed and two more Cow bird's eggs had been laid, the Vireos in the meantime had commenced incubation and were apparently as solicitous for the safety of the nest as if the eggs had been their own. However disagreeable the first discovery of the alien egg may be to some birds, it is evident this feeling is soon forgotten, and the young Cow bird never fails to receive the closest attention, no matter to what species his foster-parents may belong. When deposited in the nest of a Warbler or other small bird, it frequently happens that the egg of the Cowbird maturing early, the smaller eggs are broken by the young occupant, or, owing to his superior size and rapid development, the more delicate young are crowded out or destroyed. This does not appear to occur from an inherent desire to destroy the more feeble birds and remain sole occupant of the nest, as is the case with the European Cuckoo, but is no doubt due to superior bulk and strength alone, as, when brought up in nests of birds of more equal size the young Cowbird remains a peaceful occupant, enjoying equal privileges with the rest of the brood until all are ready to leave the nest. Having no duties to perform requiring the close association and co-operation of the sexes, it is not surprising that this species should be polygamous, and they are also more or less gregarious being usually seen in small flocks throughout the season.

W. W. DUNLOP,

Montreal, June 25th, 1883.

NOTES ON THE RED-SHOULDERED HAWK.

The nesting of Hawks in the vicinity of Hyde Park has been much disturbed this season. More than seventy eggs were taken and I have preserved a large number of specimens of Red-tailed, Red-shouldered and Cooper's Hawks. The Red-shouldered Hawk (*Buteo lineatus*), is the most common species breeding here, arriving in March. They are evidently mated when they first appear and may be heard almost any day in the vicinity of their old nests. When close to a nest, I have on several occasions known the male to swoop down within a few feet of my head.

The approach of the bird is silent, the first notice being the whirr of its wings as it turns upward after its downward headlong flight. Then both birds will rise, screaming above the tree tops and circle around for some time. Frequently the sitting bird will silently leave the nest before it can be shot at, and in a few minutes return with its mate when both will make a great noise. Sometimes a hawk will sit very close not leaving the nest until one strikes the tree for some time with a large stick or club. I have no knowledge that hawks of any kind build entire nests of their own. All those noticed by me were old crow's nests repaired. Sparrow Hawks lay in the holes of Golden-winged Woodpeckers and other hollows in trees. A Red-shouldered Hawk will add a lot of sticks to a crow's nest filling the centre with moss, grass, leaves, bark strips and sometimes old rags and paper. In one nest I found a turf or sod with long grass on it which altogether would weigh several pounds. Sometimes, I find dead mice in the nest, and on one occasion, a live frog which the hawk had brought for its mate. The nest is bulky being usually about a foot deep and eighteen inches in diameter. Inside there is only a slight hollow just deep enough to prevent the eggs from rolling out. Three is the usual number of eggs laid; sometimes two, and a set of four is a rare find. They build wherever crows nest at all elevations. The highest nest I have taken was eighty-seven feet; the lowest twenty-two feet, the latter was in a small birch tree and I took five crow's eggs from it the year before. Climbing for nests is sometimes very dangerous, the trees being often from three to four feet in diameter, but I have succeeded in reaching every hawk's nest I have yet found. The eggs of this hawk vary very much, both in size and colour. They are generally white or creamy, dotted, blotched, or splashed with umber and reddish brown. Occasionally one of the eggs in a set is pure white. I generally find them fresh from the 11th to the 25th of April, and when robbed, they will repair another nest not far from the first one and lay again in about three weeks, but the eggs of this nest are rarely more than two, and I have not known them to lay a third time during the season. Like most other hawks, when not disturbed, they will breed year after year in the same nest. The food of this hawk consist of frogs, snakes and small quadrupeds. I have not known them to attack poultry or

birds of any kind. They are amongst the last migrants in autumn, though once in a while, one may be seen in mid-winter. These are some of my own observations. I could copy considerable about hawks out of works on ornithology to which I have access, but prefer to give my personal experience.

JOHN A. MORDEN.

Hyde Park, Ont.

THE "SAMSON FOX."

Four or five years ago, my dogs killed a fox near St. Luc, St. Johns' Co., Que., whose fur was short, dull colored, a dirty reddish white, and having the singy appearance you mention. (May number.) The farmer with whom I was hunting, called this a "Samson Fox," but did not know why it was so called; he supposed it to be an ordinary Red Fox "out of condition;" it had every appearance of being such.

W. H. R.

THE PASSENGER PIGEON.

SIR,—In reply to Mr. LeMoine's query in your May number regarding the nesting of the Passenger Pigeon at Chateauguay Four Corners, State of New York, up to 1851, I beg to say that in the summer of 1867 or 1868 I was spending a few days at a place called Altona, on the Ogdensburg and Plattsburg Railway. Pigeons were flying over this place in immense numbers. Before sunrise hundreds of flocks of female birds would commence flying north to feed and continued to do so for an hour or two: by that time they would begin to fly south again; the female birds were then succeeded by the males. Towards eight or nine o'clock, a.m., the flight had entirely ceased. As it was evident these pigeons were nesting somewhere south of Altona, I decided to find the locality if possible. Having secured the services of a farmer residing in the vicinity, to act as guide, I set out early one morning, and, by following the direction in which the returning birds were flying—after a toilsome march through the woods of some five or six miles—finally came upon the nesting ground and truly my exertions were well repaid. Long before reaching the first of the nests, the noise made by the birds cooing, chattering and fluttering about, could be distinctly heard. The nests were built in a heavy hardwood bush, each tree having from

five to fifteen or more nests in it. The ground was covered with droppings, unhatched birds and broken eggs, the smell from which was most offensive. I penetrated about half a mile or more further into the woods and found no diminution in the number of nests, but rather the reverse. I was informed afterwards, but with what truth I cannot say, that this nesting ground covered ten square miles; the place is distant about one hundred miles from Chateauguay but is in the same range of woods. Wild pigeons were plentiful that year, after the hatching season, in the woods about Terrebonne and elsewhere in this vicinity.

W. H. RINTOUL.

Montréal, June 1883.

THE ORNITHOLOGY OF WESTERN ONTARIO.

SIR,—In the January number, Mr. McIlwraith takes exception to two statements in our list of birds of Western Ontario. On looking into these subjects we find that he is right in both instances; we can find no record in our note-books of the Ruby-crowned Wren wintering with us, even in the mildest winter, therefore that statement must be regarded as a slip due to the close association of this species with *calendula*. Our error concerning the great Northern Shrike arose from the supposition, which we find is incorrect, that the young of *excubitorides* resembled the adult, and when we found nests in which the young had the breast of the adult *borealis* we jumped to the conclusion that they were *borealis*. We have few winter specimens of this bird, all being either spring or fall birds, notwithstanding the fact that English sparrows are very common here in winter. It will be remembered that in speaking of the yellow-bellied Flycatcher, Mr. McIlwraith said that we would undoubtedly find it before long. Judging by this spring's experience it is probable that this has been a common bird all along, as of five small Flycatchers collected in London, three are Yellow-bellied and two Least. In his summary of the work done on the ornithology of this region he made two slight errors which he corrected in the next number, leaving the total number of species two hundred and fifty-eight to which we have now to add two species. In Toronto, Mr. Sandy's saw two specimens of the Ruff, *Machetes pugnar*, which had been killed in the bay at that place; and in the fall of 1881, Dr. Garnier shot a

Sandwich Tern, *Sterna cantiaea*, on a mill-pond near Lucknow, which is now in Mr. Morden's collection. This brings the total number of species back to the original point of two hundred and sixty, and here we must be content to let it rest for the present with the hope that the ornithologists of our section will not long allow it to be stationary.

JOHN A. MORDEN,
W. E. SAUNDERS.

London, O., June, 1883.

"OF SHRIKES IN A STATE OF NATURE."

(Continued from page 236.)

On several occasions I have seen it in the act of screaming in this manner, when it would suddenly dart from its perch into a thicket, from which there would immediately issue the real cries of a bird on which it had seized. Dr. Bachman further states that the Loggerhead has other notes than the grating sounds Audubon attributes to it:—'During the breeding season, and indeed nearly all summer, the male ascends some cedar or other tree, and makes an effort at a song, which I cannot compare to anything nearer than the first attempts of a young Brown Thrush. He seems to labour hard, making as it were almost painful exertions. At times the notes are not unpleasant, but very irregular.' Many later observers concur in attributing moderate musical ability to the Shrike, and I consider the fact established though I have never myself heard a bird of this kind sing. But I am very sceptical respecting his asserted powers of mimicry; for the few allegations of mockery we possess seem to be traceable to one or two sources, and to demand further confirmation. But we complete the portraiture of no bird's life and character until we place the nest in the foreground of the picture, with all its natural surroundings. Our two kinds of Shrikes, indeed, breed wide apart, and in some of the little details of their domestic economy they may differ, but the general course of events is the same in either case—'*cælum non animum mutant*,' whether they be Loggerheads in South Carolina or greater Butcher-birds in the northern wilderness. Knowing our bird as we do now, we might suppose that he would make love or war with equal assurance of success, and there is no doubt of the fact that a Shrike is an impetu-

ous and an audacious wooer. The main point is, however, that in operations of this kind he has to deal with no shrinking, terrified Lark or Sparrow, glad to make any terms with the tyrant, but with a bird who proves to be his match in every particular. Set a Shrike to tame a shrew—pit a pirate against a virago—and the whole neighborhood may be congratulated when the stormy scene is over. About the time the courtship grows a little monotonous, you may look through the convenient thicket, where the saplings, bushes, and weeds are grown up close together, or along yonder hedgerow, with its latticework of creepers and greenbrier, to find the nesting-place of the redoubtable couple. It will not be hard to find, for the birds build low, and make a structure as bulky in proportion to their size as a Hawk's nest. It is commonly built in a bush or sapling, within arms' reach from the ground, the nest proper resting upon an extensive basement of stout twigs, rather loosely laid together and bristling in all directions. Upon such a support, the inner nest is built, of an endless variety of soft, fibrous, vegetable substances, such as grass-stems, weed-tops, bark-strips, catkins, leaves, mosses, lichens, &c., all matted together in such quantity that the cavity within is greatly reduced by the thickness of the walls. Some nests, also contain feathers or fur felted in with the rest of the materials. There seems to be a good deal of difference in the structure of the nest, not so much according to the species, as to the climate. The northern-built nests are usually found to be more compactly built, with a greater quantity of soft, warm material, than those of the Loggerhead in the Southern States, which are smaller, more open, and rather loosely woven than closely felted. In such a bulky and rather rude receptacle, though a very substantial one, no fewer than five or six eggs may be deposited, for a Shrike is as much in earnest in these matters as in the other affairs of life. These vary in size, of course, according to the species, the eggs of the Northern Shrike being about 1.10 by 0.80 inches, while those of the White-rumped, or Loggerhead, only measure, on an average, little if any over an inch in length by three-fourths as much in breadth. They are shaped and colored exactly alike, however, being of rounded oval form, quite blunt at the smaller end, and so profusely speckled or marbled all over with various brownish, reddish, and

purplish shades that the greenish-gray ground-color is scarcely perceptible. Should nothing go amiss, it is not long (Audubon says fifteen days in the case of the *borealis*) before the nest is crowded with a clamorous and voracious brood, whose wants are an incessant tax upon the energy and devotion of the parent birds. The care of the youngsters would seem to give them all they can attend to, leaving no time for house-cleaning; for, should you come upon a family of Shrikes, well grown and soon to leave the nest, you would find things in an extremely untidy condition.

One nestful after another being thus turned loose upon the world, the tribe of Shrikes waxes. Being prolific, and having few enemies besides men, they are common birds in most portions of the country, and we readily perceive that they play an important rôle in nature's economy. I must confess that I have not drawn altogether the most flattering picture, even though I have given the doughty warriors full credit for their military operations; and I am therefore the more anxious to show what extremely useful birds they are, from the most practical standpoint possible. So far as the Shrike's relations with ourselves are concerned, the balance is entirely on one side of the ledger. We are enormously in debt to these efficient destroyers of noxious insects and injurious quadrupeds. Though they kill many a bird we should wish to live, the whole result in this regard is practically nothing to offset the check they put in the aggregate upon grasshoppers and other undesirable forms of insect life. Nay, more, the Shrike is entitled to our special thanks and most favorable consideration, for his interference in our behalf against the bird-pest of this country—the European Sparrow. In taking counsel with herself, that she might right the balance of her forces, which we so faultously interfered with when the Sparrow madness seized us, she bethought herself of the Shrikes, and in her own mysterious way she summoned these trusty allies to her aid. The Shrikes, nothing loth, went right to work, and were abating the nuisance very perceptibly, when Bostonese idiocy confronted them and cut short their righteous warfare. Men shot them down in the very acts of destroying Sparrow after Sparrow; at each murderous discharge of the gun, a noble Shrike was martyred in doing his best for the good of the community."

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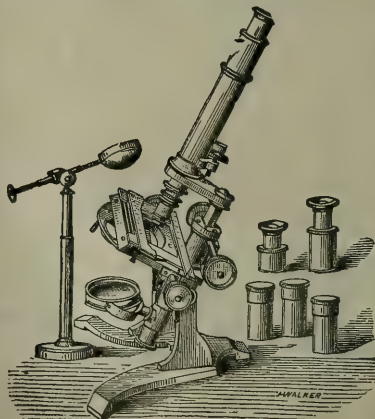
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No. 7.

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No. 7.

MONTREAL, JULY, 1883.

VOL. III.

WILLIAM COUPER, Editor.

QUERIES.

Is the American Woodcock (*Philohela minor*) found in the Province of Manitoba? We are told that it does not occur there. It is not mentioned by Prof. Macoun, but it is given by Mr. Brodie in his list published in No. 4, Vol. III. of this magazine.

Bonaparte's Gull (*Larus Philadelphice*) is said to nest on islands in inland lakes. Have any of our Canadian Oologists found it so situated this year? Its eggs were *desiderata* in the Smithsonian Institute collection a few years ago.

CANADIAN ORNITHOLOGY.

In this issue, we publish a second review of M. Dionné's late French work on the Birds of Canada. It is unpleasant for us to be compelled to decry the attempts so far made by ambitious writers to produce histories or descriptions of the *avi-fauna* of this Canada of ours, but something must be done to stop the carelessness which is so conspicuous in much of Canadian ornithology. Mr. Chamberlain is correct in saying that "it is time we speak plainly about such things, if our students are to take the standing they should. American ornithologists also say that Canadian writers, as a rule, seem to know nothing about their birds, and write the most puerile trash." There is considerable truth in this statement, and to stop it some one must speak out plainly. We have had several ornithological communications from parties resident in three of the Provinces of the Dominion, but it is impossible for us to vouch for the accuracy of all the matter sent to us for publication—the writers are alone responsible for their statements—but when a wrong is detected we generally form it right. Our object since the

first issue of the magazine, was, and is to make it original regarding Canadian Natural History, to constitute it an authority for future reference, therefore we trust that our correspondents will continue to keep the serial up as a truthful record which it was our purpose it should be.—C.

CANADIAN HYMENOPTERA.

COMPILED BY THE EDITOR.

In vol. I. p. 19 of this magazine, I published a portion of the HYMENOPTERA found on the Island of Montreal. The following is a list of the APIDÆ occurring in Canada up to March, 1879.

CALLIOPSIS flavipes, Smith.

NOMADA bisignata, Say.

" *armata, Sch.*

PHILEREMUS Americanus, Cresson.

STELIS? nitida, "

CÆLIOXYX 8-dentata, Say.

OSMIA faceta, Cresson.

" *atriventris,* "

" *albiventris,* "

" *Hudsonica,* "

" *cognata,* "

" *proxima,* "

" *vicina,* "

" *simillima, Smith.*

ALCIDAMEA producta, Cresson.

MONUMETHA borealis, "

MEGACHILE melanophæa, Smith.

" *frigida,* "

" *latimanus, Say.*

" *pugnata,* "

" *bucephala, Smith.*

" *mendica, Cresson.*

" *relativa,* "

" *centuncularis, Linn.*

" *brevis, Say.*

MELISSODES desponsa, Smith.

" *aurigena, Cresson.*

" *dentiventris, Smith.*

" *bomboides, Kirby.*

" *abrupta, Say.*

APATHUS laboriosus, Fabr.

" *Ashtoni, Cresson.*

" *citrinus, Smith.*

BOMBUS *virginicus*, *Oliv.*
 “ *separatus*, *Cresson.*
 “ *Ridingsii*, “
 “ *vagans*, *Smith.*
 “ *consimilis*, *Cresson.*
 “ *affinis*, “
 “ *perplexus*, “
 “ *borealis*, *Kirby.*
 “ *fervidus*, *Fabr.*
 “ *Pennsylvanicus*, *DeGeer.*
 “ *terricola*, *Kirby.*
 “ *Couperi*, *Cresson*, (Labrador.)
 “ *strenuus*, “
 “ *lacustris*, “
 “ *ternarius*, *Say.*
 “ *pratensis*, *Kirby.*
 “ *Derhamellus*, *Kirby.*

APIS *mellifica*, *Smith.*

The following species are said to occur in Canada:—

NOMADA *punctata*, *Fabr.*
 “ *armata*, *Cess.* (Nova Scotia.)

CÆLIOXYX *funeraria*, *Smith.*

BOMBUS *hortorum*, *Linn.* (Lake Winnipeg.)

“ *Kirbiellus*, *Curtis.*

“ *polaris*, “

A DESTRUCTIVE TWO-WINGED FLY.

A few years ago, the late Benjamin Walsh published in the *American Entomologist*, some interesting remarks on the internal and external parasites which were known to him to attack man on this continent. Since then we have to record the occurrence of an insect belonging to the order DIPTERA or two-winged flies, which is said to deposit its eggs in the nostrils of man, especially when he is troubled with catarrh. The fly is said to occur in Canada. Maggots of this fly are called “Screw worms” in Kansas, where it is known to attack horses and cattle, but lately positive evidence has been produced to show that it also lays its eggs in the nostrils of man when it finds him asleep in woods or field. There are circumstances connected with the economy of many of our small insects which will take us a long time to discover. A tree flourishes and produces fruit for a time, but the moment decay is indicated in its trunk, insect parasites appear and in a few years it falls and be-

comes amalgamated with the earth from which it sprang. This is also the case with the human body, the moment that disease attack a portion of it, parasites are hovering near the spot. Therefore it behoves us to study cleanliness especially in regard to the nostrils.

We copy the following account of the hominivorous habits of the fly by F. H. Snow, Lawrence, Kansas, published in “*Psyche*” for March-April, 1883. There is one thing missing, that is, a good illustration of the horrid fly.

The Professor says:—

“I have from time to time had occasion to note the depredations of the screw-worm upon horses and cattle in this state, but until recently have not received positive evidence of its attacks upon human subjects in any locality so far north as Kansas. But early in September, 1882, I received from Mr. S. D. Osborn, the postmaster at Vark, in South-eastern Kansas, specimens “of the worms which came from the nostrils of Milton Carter.” These proved to be the larvæ of *Lucilia mucellaria* Fab., the so called “screw-worm.” Upon further inquiry I learned that upwards of one hundred full-grown maggots escaped from the nose of this patient, who finally recovered from the serious illness consequent upon their ravages. I also ascertained that Mr. Carter had long been afflicted with an offensive nasal catarrh, which made his nostrils an attractive place for the oviposition of the fly, and that he had fallen asleep in the woods in the day-time only a few days before the first appearance of the symptoms produced by the presence of the larvæ.

“Several other instances of the attacks of *Lucilia* upon man soon came to my knowledge, most of which led to fatal results. Among these I will select the case attended by Dr. J. B. Britton, of Mapleton, in southeastern Kansas, who reported it in full at the session of the Southeast Kansas District Medical Society in January 1883. From this report I condense the following account: “On the evening of August 22d, 1882, Mr. M. E. Hudson complained of a peculiar sensation at the base of the nose and along the orbital processes, which was first followed by inordinate sneezing, and later by a most excruciating pain over the os frontis, also involving the left superior maxillary. This patient also had

suffered, and was still suffering, from an aggravated form of nasal catarrh. The discharge was quite purulent, of a yellowish color frequently tinged with blood, with a disagreeable odor and at times intolerably offensive. On the 24th there was a profuse discharge of much purulent matter from the nostril and mouth, when all pain instantly subsided. This discharge continued for three days, during which time as much as sixteen ounces escaped, increasing in consistency until it was pure pus. The odor becoming much more offensive, his cough was much more troublesome and fever increased to such an extent as to produce slight delirium for twelve hours. What was thrown off was with much difficulty expectorated, and was sanious, containing microscopic particles of osseous matter together with flakes of plastic exudation. The patient had spoken with difficulty for thirty-six hours and there was much trouble in swallowing. The soft palate had evidently given way and there was an entire inability to protrude the tongue or use it in speech.

"About this time a worm similar to a maggot dropped from his nose. That was the first indication or suspicion that there was anything of the kind present. There was not, as in some other cases reported, any swelling, or movement traceable under the skin, nor was there at any time any complaint of the patient, calculated to lead to a knowledge of their presence. After the appearance of the first, I expected more, and was surprised to see them drop from the nostrils and wiggle from the mouth without any discomfort to the patient until they came in contact with the Schneiderian membrane, when they annoyed him greatly, and every effort was made on his part to expel them; but so soon as expelled, no further trouble was manifested until another would get into the nostril. Every effort was made on my part to discover them under the tissue, but the soft palate being destroyed to a great extent, and the palatine arch apparently lowered, it was with very much difficulty that an examination could be made. The worms were evidently burrowing under the palatine fascia, as it presented a honey-combed appearance and in places patches were totally destroyed as large as a dime [18 mm.]. They continued to drop from the mouth and nose, forced from the nostrils by the efforts of the patient, for the following forty-eight hours, during which time 227 were counted and the estimated number exceeded 300. At

this time the whole of the soft palate was destroyed. The patient lived four days after the last worm came away.

"I put five of the worms in dry earth and in fourteen days from the time they dropped from the nostril there hatched out three flies.

"Upon a very minute and careful examination after death, I was astonished to find that all the tissue covering the cervical vertebrae, as far down as I could see by throwing the head back and compressing the tongue, was wholly destroyed and the vertebrae exposed. The palatine bones broke with the slightest pressure of the finger. The os hyoides was destroyed and the nasal bones loose, only held in position by the superficial fascia.

"My own theory is that the fly deposited the eggs while the patient was asleep, probably the day previous to the peculiar sensation and sneezing first complained of. At that time they had acquired vitality enough to annoy him while in contact with the sound flesh. So soon as they came in contact with the unsound flesh, or that affected with the catarrh, being as it must have been gangrenous, they gave no further trouble."

"Dr. Britton forwarded to me specimens of the fly, bred as above stated which I identified as *Lucilia macellaria* Fab. In order, however, that there might be no possibility of error, I submitted them to Dr. S. W. Williston, of New Haven, Conn., who corroborated this determination and furnished the following notes concerning the species: "The specimens are evidently *Lucilia (Campsomyia) macellaria* Fab., a fly common from the Argentine Republic to Canada, and which from its variations has probably received more specific names (20!) than any other American fly. It belongs to the *Muscidae* (true) and is not far from *Musca*. Their hominivorous propensities have gained for them the synonyms of *Lucilia hominivorax* Coquerel, and *L. hominivorus* Cenic (S. America)."

"In the Peoria (Ill.) Medical Monthly for February 1883, Dr. Joshua Richardson, of Mc-ravia, Iowa, has an article upon "The screw-fly and its ravages," from which I make the following extracts: While travelling in Kansas in the latter part of last August a citizen of this place had the misfortune to receive while asleep a deposit of eggs from this fly. He had been troubled for years with catarrh, hence the attraction to the fly. He returned home a few days after the accident and shortly after began complaining of a bad cold.

Growing rapidly worse I was called to attend him. Monday, my first day, his appearance was that of a man laboring under a severe cold. Had slight congestion of the lungs, and moderate grade of fever. His nose seemed greatly swollen and he complained of a smarting, uneasy feeling in it, and general misery through the head. Gave him treatment to relieve the congestion and fever. Tuesday saw him again. His nose and face were still more swollen, and in addition to the other symptoms he was becoming slightly delirious and complained a great deal of the intense misery and annoyance in his nose and head. A few hours after, I was sent for in haste with the word that something was in his nose. I found on examination a mass of the larvæ of this fly (or "screw-worms" as they are commonly called in the south) completely blocking up one nostril. On touching them they would instantly retreat *en masse* up the nostril. Making a 20 per cent solution of chloroform in sweet milk I made a few injections up both nostrils, which immediately brought away a large number, so that in a few hours I had taken away some 125 of them. By Wednesday evening erysipelas had begun, implicating the nose and neighboring portions of the face. Another physician was called. By continual syringing with a strong antiseptic solution of salicylate of soda, bicarbonate of soda and carbolic acid we hoped to drown out the remaining larvæ. But they had by this time cut their way into so many recesses of the nose and were so firmly attached that we were unable to accomplish much. Finally we resorted to the chloroform injections, which immediately brought away a considerable number. Friday I was able to open up two or three canals that they had cut, extracting several more that had literally packed themselves one after another in these fistulous channels. His speech becoming suddenly much worse, I examined the interior of his mouth and found that a clear-cut opening had been made entirely through the soft palate into his mouth and large enough to insert the end of a common lead pencil. Saturday the few remaining larvæ began changing color and one by one dropped away. On Sunday for the first time hemorrhage from both nostrils took place, which continued at intervals for three days but was not at any time severe. On this day the patient began to improve, the delirium and erysipelas having subsided leaving but little or no annoyance in his head. In a few days he became able to go

about home, and even to walk a distance of half a mile to visit a friend and return. But while there he began complaining of a pain in the neighborhood of his left ear, apparently where the eustachian tube connects with the middle ear. It proved to be an abscess. Being already so reduced by the first attack, he was unable to withstand the second, and died after an illness of nearly three weeks, completely exhausted by his prolonged sufferings. Three days before his death the abscess discharged its contents by the left nostril. The quantity of pus formed was about $2\frac{1}{2}$ ounces [78 grams].

"In all about 250 larvæ were taken away from him during the first attack, and, as the visible results, not only had they cut the hole through the soft palate, but had also eaten the cartilage of the septum of the nose so nearly through as to give him the appearance of having a broken nose. The case occupied, from the first invasion of the fly to its final result, nearly two months. He doubtless would have recovered but for the formation of the abscess, which, from all the symptoms, was caused by one or more of the larvæ, having found their way up the left eustachian tube."

"Dr. Richardson also quotes the Rev. William Dixon, of Green, Clay Co., Kansas, as giving the following account of his own experience:

"While riding in his buggy a few years ago in Texas, a screw-fly attacked him flying up one nostril. He blew it out when it dashed up the other and deposited its eggs before he was able to expel it. Not realizing the danger he did nothing for about three days, when the pain became so great that he hastened to Austin to consult a physician. His soft palate was almost destroyed before the larvæ, over 200 in number, were expelled." This was the only one of twelve cases known to Dr. Richardson in which the patient recovered."

M. DIONNES' "LES OISEAUX DU CANADA."

DEAR SIR,—I cannot but think that in the notice of the above named book, which was published in the June number of this magazine, the reviewer has been more generous to the author than just to the Canadian students of ornithology. It is not quite fair to allow it to be thought that we know so little about our birds that we can not form a correct estimate of such a book, and, while the reviewer has

pointed out several of the errors it contains, he has, I think, failed to place before your readers its utter worthlessness as an authentic work, and will, I fear, assist to spread its mischievous influence rather than prevent it. I need scarcely to remark that I refer entirely to those portions of the book which applies to the bird life of Canada, and not to that which is copied from Dr. Coues' "Key to North American," one of the best and most reliable works ever published. Had M. Dionne been content to translate the "Key," or such portions of it as would be most useful to Canadian students, he would have gained the well-merited thanks of the French-speaking members of the fraternity.

So much of the book being of an excellent character, creditable alike to M. Dionne's industry, skill and good judgment, it is all the more to be regretted that he had not spent the little additional care and labor which was required to make "Les Oiseaux du Canada" a standard authority. But he failed to give the matter the attention its importance demanded, and it is due to students that they be warned against accepting his statements, and also due to those who may be contemplating authorship that they shall be taught that they are assuming a grave responsibility, and can not with impunity publish for scientific facts an array of statements drawn from their imaginations or compiled with indifference to the reliability of their authorities.

M. Dionne's book exhibits clear evidence of the influence of another mischievous work, "The Birds of Canada," by A. M. Ross, M.D., &c., &c., &c., &c. The long list of et ceteras by which this author sought to impress upon his readers his eminent qualifications for writing a standard work did not save it from being dismissed by the English "Zoological Record," with this severe sentence, "The text is valueless." Every one must admit that such books are worse than merely "valueless," for, placed in the hands of young students who cannot discriminate between the good and the bad which they contain, they become misleading. This matter is of such importance that I ask a little space to quote a few examples from these books by way of illustrating their character. I will quote from both, for the one is such a close imitation of the other that the original must be examined to determine the value of the copy.

In the first place, the titles of the books are misleading, for it can not be correctly said of

either that they contain accounts of the birds of Canada as such. Dr. Ross' work refers almost wholly to a part of Ontario, the few references to the maritime Provinces, chiefly drawn from Audubon, and the list of species found in Manitoba and British Columbia, which is appended to the second edition, do not redeem the body of the work from its purely local character, and to give it a title bearing a wider significance is to handicap it with a pretension which its contents will not sustain, and will also cause confusion to inexperienced readers. The same remark will apply with greater force to M. Dionne's work, for he has mentioned only a small portion of the western species, and treats them as if they occurred in the Eastern Provinces, having in the preface stated that he had omitted the *fauna* of Manitoba and British Columbia.

To state, as Dr. Ross does, that the Brown Thrasher "is one of our most common birds," that the House Wren "arrives from the south the first week in May," that the Evening Grosbeak "is a visitor," and to make no further mention of the localities in which they occur, in a book entitled "The Birds of Canada," is calculated to create a false impression; for though all this may apply to Ontario, it does not apply to New Brunswick or Nova Scotia, as these birds have never been found there.

The only remark which M. Dionne makes about the distribution of the Olive-backed Thrush is "Cette espèce est rare aux environs de Québec." As a matter of fact, I have found this species common throughout New Brunswick, at no locality more so than at Madawaska, on the Quebec border; and it is also common at Lennoxville. Besides these facts, we have Mr. Wintle's report of its occurrence near Montreal, and Mr. Merriam's report of it being "not uncommon" near the Godbout; the name is on the Morden-Saunders list of Western Ontario, and in Mr. McIlwraith's old list of Hamilton species; Mr. J. Matthew Jones reports it common in Nova Scotia, and Prof. Macoun found it in Manitoba, while it has been traced west to the Pacific slope and north to the Arctic. With such information easy of access, it is quite inexcusable to imply that the only locality in which the bird is known to occur in Canada is near Quebec; and when an author will so carelessly make statements which we know to be incorrect, we cannot be expected to rely

upon those he may make for which we must accept his unsupported authority.

That many of the statements made would be correct if applied to prescribed districts I will not dispute; but I submit it is a mistake to suppose that what applies to the *fauna* of one limited locality must perforce be equally applicable to the entire Dominion. Each *faunal* area, and there are a number of such divisions in Canada, has a bird-life peculiar to itself; even though some species having a much wider range of distribution than others, are found in several areas. But there are in these books other errors of a more serious nature than the question of distribution. For instance, Dr. Ross gives the color of the eggs of the Olive-backed Thrush as reddish brown, while leading authorities have pronounced them greenish blue, speckled with brownish. The same author states that the Hudson Bay Tit "nests in a shrub; eggs four; pure white." Not one of these details are correct. This species invariably make an excavation into a dead stump or living tree, and lay from five to ten eggs, which Dr. Brewer, having before him the large series in the Smithsonian collection, described as being of a white ground color, but having reddish brown spots grouped in a ring around the larger end.

In his description of the plumage of the Olive-backed Thrush, M. Dionne states that the breast, throat and chin are of a pale brownish yellow, while the best authorities give the color of these parts as white, with a buffy tinge, and marked with dark spots.

In the matter of habits, this same author makes such remarks as that the Blue Yellow-backed Warbler delights in bushes and lower branches of the trees, but a number of careful and experienced observers have unanimously recorded this bird's preference for the highest branches of the highest trees.

Cuvier's Kinglet is found in both books, and may be taken as a fair sample of the carelessness which is so conspicuous. Dr. Ross records that the species occurs in Canada in spring and fall, and M. Dionne repeats the record and attempts to throw all responsibility from his own shoulders (which, by the way, he does very seldom, making most improbable statements upon his own unsupported authority) by quoting Dr. Ross; but he should have known that, to say the least, the occurrence of the bird was so very doubtful that it should not be placed on any list unless upon the most

unquestionable authority, and then the date and locality as well as the name of the collection should have been given to make the record acceptable by scientists. The only example of this Kinglet which has been so far reliably recorded was taken by Audubon near the Schuylkill River, Penn., in June, 1812. Mr. Ridgway has retained the name in the Smithsonian catalogue on this authority, but Dr. Coues has not placed it on his "Check List."

Just where M. Dionne gathered his information that Dr. Coues considers this species a variety of *calendulus* is not apparent. There is no such statement in the "Key," the only one of Dr. Coues' works which M. Dionne mentions among his authorities; and in "Birds of the North-west," *Cuvieri* is given as a doubtful synonym of *satrapa*, while in "Birds of the Colorado Valley" it is not mentioned.

As I have before remarked, references are made in these books to numerous western species, without any indication of their range being given. Macgillivray's Warbler will serve as an example of these. The most eastern limit of the range of this species which is authentically recorded, is Dr. Cooper's report of finding it at Fort Laramie, in Wyoming Territory. Yet Dr. Ross makes the unqualified statement that "it breeds in Canada," by which he must mean, to be consistent with his other records, that it breeds in Ontario.

M. Dionne follows with an unsupported assertion, changed, by way of appearing original, to "rarely seen in Canada," and he copies the pattern so closely as to repeat an error which Dr. Ross made in describing the eggs as "flesh-colored." The best authorities describe them as of a pinkish-white ground color, but "marked and spotted with purple, lilac, reddish-brown and dark brown approaching black."

Turning to the Owls, we find that M. Dionne, on page 131, states: "Nos espèces sont toutes sédentaires en Canada"; and, again, in his account of the Barred Owl, "Cette chouette est commune à l'automne et disparaît au printemps pour aller faire sa ponte à la baie d'Hudson." These two statements do not harmonize and neither is correct. By "sedentary" species ornithologists mean those which remain during the entire year in one locality, and it is quite certain that in this sense neither the Snowy Owl, the great Gray Owl, the Hawk Owl, nor Richardson's Owl

can be called "sedentary" in Canada, being mostly winter visitors. The Barred Owl, on the other hand, is given by Mr. Vennor as universally diffused over the greater portion of British America, and is a resident species in most localities in Canada. It is, as a rule, a "resident" wherever found, and in the breeding season is much more abundant in the Southern States than at Hudson Bay.

On an introductory page, M. Dionne has given a long list of "ouvrage consultés," but he must have read some of them, at least, to very little purpose. Had he, for instance, read with any care the Bulletins of the Nuttall Ornithological Club he would have seen in the number for April, 1878, on page 52, the record of Dr. T. M. Brewer that "It is now universally conceded that not a specimen (of the Crested Grebe) is in existence of American origin, and that there is no authentic record of the capture of a single specimen in America." It was excusable in Dr. Ross putting the name of this bird in his list, as the mistake in identification had not then been published, but there is no excuse for M. Dionne blindly following him.

It would take a large volume to point out all the errors which these two authors have made. I have picked out these few quite at random, but they will suffice to show how little reliance can be placed in anything which the books contain. Had they been content to publish what they had observed, or could have compiled from authentic sources, these writers would have rendered a valuable service to Canadian students and ornithologists at large, but the publication of these books must bring a blush to the cheek of every Canadian who realizes that those claiming to be eminent among our scientists are responsible for such miserable failures. It is time such work was stopped.

The system of nomenclature and classification adopted for "Les Oiseaux du Canada" is that of Dr. Coues, which M. Dionne informs his readers is in his opinion the most correct and the most generally acknowledged. Well, it is encouraging to learn that he is so well informed in the higher branches of ornithology that he can form a correct opinion of the merits and demerits of the rival systems; but if he thinks that Dr. Coues' system is the most generally used he is in error.

The great body of American writers use the system prepared by Mr. Ridgway for the Smithsonian Institution, and which differs

very materially from Dr. Coues', and, though I freely admit that I can not judge of the merits of either, I will take the liberty of advising all Canadian students and writers to use Mr. Ridgway's system and avoid the confusion which must arise if that prepared by Dr. Coues should come into more general use.

Respectfully yours,

MONTAGUE CHAMBERLAIN.

St. Johns, N.B.

THE MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE IN CANADA.

Over four hundred members of the above Association have pledged themselves to attend the meeting in Montreal next year.

"Science" says:—"In so far as accommodations for the meeting is concerned, and funds for its expenses, there can be no doubt that Montreal can entertain the association as well as any of the British cities in which it ordinarily meets; and its geographical position and facilities for access and for communication with all parts of Canada, the Northern States and the West, present many attractions; while there is reason to hope that a meeting of the British Association in Montreal would be attended not only by all interested in science in Canada, but by large numbers of the scientific workers of the United States. The experience acquired last year in entertaining the American Association will also afford very valuable guidance." We understand that the difficulties in regard to the transportation of so large a body across the Atlantic are now settled, and all parties interested here have put their shoulders to the wheel in order to give our scientific brethren a cordial welcome. We quote also from "Science," the editor remarking "that in the present year the meeting of the American Association, at Minneapolis, is early (Aug. 17); while that of the British Association at Southport, which is, besides, in the immediate vicinity of Liverpool, is unusually late (Sept. 19). This will allow members of the American Association to attend both meetings; and it is stated that the retiring president of the American Association, and possibly others of its members, may avail themselves of this privilege. This may possibly permit arrangements to be made which might substantially unite the meetings

of the two associations in 1884, and so prepare for an international meeting in the future. If the meeting of the American Association for 1884 can be fixed for some north-eastern city, sufficiently near Montreal, and can be timed so as to occur a week before or after that of the British Association, there can be no doubt that a great number of members of the latter body would take advantage of the opportunity to enjoy the companionship of their American *confreres*; while, on the other hand, many of these would gladly spend a few days at the meeting of the British Association. In this way it would seem that a greater benefit to science might result than even from an international meeting. There would be time for the complete transaction of the business of both associations. Neither would suffer either pecuniarily or in the value of its proceedings; and there would be the best possible opportunity for interchange of ideas between the scientific men of the United States, Great Britain and Canada. Nor is it unlikely that some scientific workers from the continent of Europe and elsewhere may be attracted by a combination so unusual. It may thus be hoped that the proposed meeting of the British Association in Canada may not only be one of the most successful that this mother of associations has held, but may inaugurate an epoch of renewed activity and progress in the widely-spread scientific work of the two great associations of the English-speaking race."

HUXLEY'S COD-FISH MOUNTAIN.

Professor Huxley says that a good fishing ground will yield more food in one week than an acre of the best land in a year. At the International Fisheries Exhibition in London, he drew a vivid picture of the moving "Mountain of Cod," one hundred and twenty to one hundred and thirty feet in height, which for two months in every year moves westward and southward past the Norwegian Coast. Every square mile of this colossal column of fish contains one hundred and twenty millions of fish, consuming every week, when on short rations, no fewer than eight hundred and forty millions of herrings. The whole catch of the Norwegian fisheries never exceeds in a year more than half a square mile of this "Cod Mountain," and one week's supply of the herrings needed to keep that area of Cod from

starving. London might be victualled with herring for a year on one day's consumption of the uncaught Cod.

REVIEW.

We have before us a General Index to the Thirteen Annual Reports of the Entomological Society of the Province of Ontario. The matter is compiled by Edmund Baynes-Reed, Sec.-Treas. of the Society, who deserves credit for the work, which is systematically arranged and will be useful to those who possess the Reports since 1870. Attempts are made to give English names to our insects; indeed, we would be well pleased to see all the species in this Index thus supplied; but we decidedly object to the duplication of an English name to one insect, or to two species, as we notice this to be the case in the Red-legged Locust, which is called the "Canadian Locust." *Anthomyia ceparum* and *Ortalis plexa* are called Onion flies, and three species of *Cantharis* are called Spanish Blister Beetles. We would prefer to call *C. scrutator* the Green Calasoma, and *C. calidum* the Gold-spotted Calasoma. Our Papilios and other Butterflies should have appropriate English names, and something must be done ere long to overcome this difficulty. The British insects have English names by which they are recognized by the unscientific collector, and the North American species should be commonly known by names applicable to them which may be taken from their forms or food plants. This Index is, however, a good beginning. In conclusion, we may remark that *Rhodites radicum* is placed under the head of DIPTERA.—C.

DISTEMPER IN DOGS.

We have received a pamphlet from the author, Mr. S. E. Wheeler, 133 Bleury street, Montreal, on Distemper in Dogs, its symptoms and cure. To those who wish to keep their dogs healthy and vigorous, the instructions given by Mr. Wheeler are valuable. He seems to possess a thorough knowledge of the diseases of these animals. The price of the pamphlet is 20 cents.

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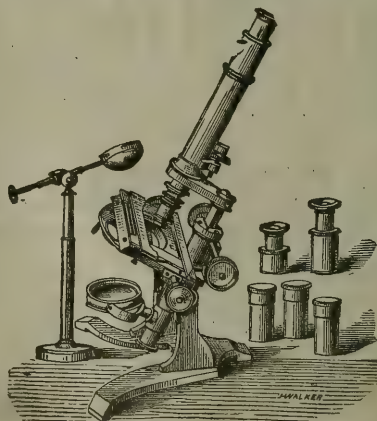
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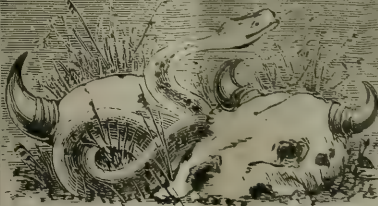
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No. 8.

MONTREAL, AUGUST, 1883.

VOL. III.

WILLIAM COUPER, Editor.

PARASITES ON TELEA POLYPHEMUS.

In one of the popular papers on Entomology by my esteemed friend Mr. W. Saunders of London, Ontario,* he says:—"This insect (*T. polyphemus*) is subject to the attack of many foes, particularly while in the larval state. A large number fall a prey to insectivorous birds, and they also have insect enemies. A large ichneumon fly *Ophion macrurum*, is a special and dangerous foe. This active creature may often be seen in summer on the wing, searching among the leaves of shrubs and trees for her prey. When found, she watches her opportunity, and places quickly upon the skin of her victim, a small oval white egg, securely fastened by a small quantity of glutinous substance attached to it. This is repeated until eight or ten eggs are placed, which in a few days hatch, when the tiny worms pierce through the skin of the caterpillar and begin to feed on the fatty portions within. The *polyphemus* caterpillar continues to feed and grow, and usually lives long enough to make its cocoon, when consumed by the parasites, it dies; in the meantime the ichneumons, having completed their growth, change to *chrysalides* within the cocoon, and the following summer, in place of the handsome moth, there issues a crop of ichneumon flies." The italics are mine. The insect above described and illustrated (fig. 11, Rep. 1882) by Mr. Saunders, is not correct. The matter refers to a much smaller one belonging to another genus (*Cryptus nuncius*, Say.) the most common and destructive parasite on *T. polyphemus*. *Ophion macrurum* deposits but one egg on a caterpillar, and as soon as the parasite devours it, the *Ophion* spins a large oblong dark cocoon within that formed by the caterpillar of *polyphemus*. Cocoons of this moth which I have collected last season, contained about thirty specimens of *Cryptus nuncius* of both sexes, and I also found an undetermined species of *Hemiteles* inclosed in the same cocoon; the latter may be a parasite on *Cryptus*. The species of *Ophion* occurring in Canada, are yet to be studied.—C.

AMERICAN ORNITHOLOGISTS' UNION.

We have received the following circular, signed by J. A. Allen, Editor of the *Nuttall Bulletin*; Elliott Coues, Assoc-Editor of the *Nuttall Bulletin* and William Brewster, President of the Nuttall Club, calling "a Convention of American Ornithologists, to be held in New York City, beginning on September 26th, 1883, for the purpose of founding an AMERICAN ORNITHOLOGISTS' UNION, upon a basis similar to that of the 'British Ornithologists' Union.'

"The object of the UNION will be the promotion of social and scientific intercourse between American Ornithologists, and their co-operation in whatever may tend to the advancement of Ornithology in North America. A special object, which it is expected will at once engage the attention of the Union, will be the revision of the current lists of North American Birds, to the end of adopting a uniform system of classification and nomenclature, based on the views of a majority of the Union, and carrying the authority of the Union. Other important matters will be doubtless presented for consideration at the first meeting.

"It is proposed to hold meetings at least once annually, at such times and places as may be hereafter determined, for the reading of papers, the discussion of such matters as may be brought before the Union, and the transaction of the usual business of a scientific society.

"Those who attend the first meeting will be considered *ipso facto* Founders of the AMERICAN ORNITHOLOGISTS' UNION. Active and Corresponding Members may be elected in due course after organization of the Union, under such rules as may be established for increase of membership. Details of organization will be considered at the first meeting."

Canadian Ornithologists who propose to attend the first meeting, please so signify to any one of the above gentlemen.

It gives us pleasure to record the fact that our ornithological neighbours of Cambridge and Washington have decided to form a Union similar to that which exists in Great Britain. Many important matters connected with

* Report of the Entomological Society of Ontario for the year 1882, page 17.

American Ornithology will be thoroughly arranged and settled forever by the majority of the members of this Union. Two current lists of N. A. Birds cannot be much longer extant, therefore, it is necessary that a uniform official system of classification and nomenclature should exist which would doubtless be recognized and adopted by every ornithological student in North America. We wish success to this Union; its promoters are hosts in themselves—a sufficient guarantee that their object will be attained.—C.

A VALUABLE DONATION.

Parties visiting the collections of the Natural History Society of Montreal will doubtless admire a large English-made lighted case of British *Rasores*, comprising pairs of each species. They are tastefully mounted on artificial rock by Mr. Reuben Webster, taxidermist, Sheffield. The birds are life-like, and form a very valuable and attractive feature to the Society's Ornithological collection. Those interested should examine this group of British partridge and grouse. Among the latter are a pair of the rare capercailzie in very natural positions. They were presented by A. A. Jowitt, Esq., senior partner in the firm of Messrs. T. Jowitt & Sons of Sheffield, England, through his friends Messrs. Frothingham and Workman of this city. This donation, we are sure, will be appreciated not only by the members of the Society but by all lovers of natural history.—C.

ORNITHOLOGICAL NOTES.

DEAR SIR—It is a repeated pleasure to me as each succeeding number of the *Canadian Sportsman and Naturalist* comes to hand, bringing information new and interesting, concerning the lovely creatures which form the subjects of our favourite study. I feel my inability to write anything that will ornament the pages of your magazine, while I read with delight the articles from pens of able authors, as I think do all those who are in search of a knowledge of the life histories of the quadrupeds, birds, &c., of our country. My sincere desire in sending a letter for publication is to help to increase the knowledge of natural history, and if anything I write is new information to my brother Ornithologists and Oologists, I shall be greatly gratified. Early on the morning of May 26th, 1879, I started into the fields and woods of our neighbourhood in quest of desirable specimens

of all kinds. When I started the sun had just risen brightly and all vegetation was yet moist with dew. Soon after entering a field about half a mile from our house, I came amongst some brier and red raspberry bushes scattered about. After walking a little way a female golden-winged warbler *Helminthophaga chrysoptera* started with sharp chipping notes from within a yard of my feet. Upon glancing down, I saw what at a short distance appeared to be a bunch of red leaves sunk in the grass at the roots of three little raspberry bushes. No other tree leaves were on the ground near the nest, which showed clearly that the birds had carried all the materials which formed their little house. The nest was very bulky, considering the small size of the builder. Fully two-thirds of the leaves fell from the outside of the nest before I reached home with it. The four eggs and also one of the cowbird which it contained were fresh. This is the nest and eggs which I sent to you to be described.* The two damaged eggs were broken by the box containing them accidentally falling from a shelf. Before taking the prize, I stood by and watched the actions of the parent birds. The female fluttered from one dewy bush to another for a few minutes, all the time uttering rapidly her note of alarm, when suddenly her mate appeared; but he, heartless little creature, instead of joining in the defence, darted at the female and fiercely pursued her hither and thither, regardless of her cries of anguish and grief, until both were lost to view. In a few moments the female again returned and behaved exactly as before. She would flutter along as if wounded, alighting on a bush within three or four yards of me and instantly leaving it again, moving away as she came, seemingly anxious to entice me in pursuit of her, instinctively endeavouring to lead me away from the spot where the objects of her affection were laid. So beseeching were the actions of this tiny bird that I had to harden my heart before I could take the nest away. I reasoned thus:—Perhaps if I leave this nest, some carnivorous animal or bird which the Creator has formed with egg devouring propensities, will find it out and destroy them. The bird would not forget her loss a bit sooner than if I took

*The eggs, four in number, do not differ in size and shape from others of this family. The average measurements are .65 50-100, colour white, ground marked with reddish brown spots and blotches of different shades, the larger ends being most thickly marked. The markings are very irregular in size, shade and distribution only one of the eggs having the small end immaculate.

them, and the valuable specimens would be lost to science; besides are not all the objects of nature created for the happiness, pleasure, and benefit of man. The ewe has as much affection for her lamb as a wild bird for her nest and eggs, but what man considers it cruel to kill the lamb when it is yet barely old enough for food? About the end of May, 1879, I found two more nests of the golden-winged warbler in a willow swamp. One nest was pulled out of the place where it was built and apparently had been robbed by some depredating animal. The other was to all appearance a completed nest without eggs. A few days later it contained one egg. A heavy rain storm occurred on June 6th; I visited the nest next day and found it half submerged; it contained two eggs which I took. I never saw the parent birds near this nest, but no person can mistake one after once knowing them; they are so different from that of any other bird, and the four nests I have seen are all exactly similar in material, construction, and situation. I have seen the young of this species late in June following their parents and clamoring for food, but found no more of their nests until this season, although the bird is quite common here. Between the willow swamp in which the two last described nests were found and the woods is a rough field containing stumps and many briars. A friend named H. P. Attwater and I were hunting in the field one day last May; I saw a pair of these warblers, and wanting a female specimen, I fired at this one with a charge of dust shot from my five shot 22 calibre repeating gun which I use for small birds. Unaccountably I missed the bird, but while watching to ascertain if it was wounded, I concluded by its actions that it had a nest near by, but all search just there proved fruitless. I had told Mr. Attwater that the nest would appear like a large ball of yellow leaves at the root of some little bush and quite exposed. We had separated and started towards the willows. After proceeding about sixty yards, my friend called me saying he had found the nest; it was completed but contained no eggs. We both decided to shoot at no more golden-wings in that locality until this bird laid her eggs. On June 3rd, the nest contained two eggs of this warbler and two of the cowbird, these last I removed, otherwise the bird would have laid no more of her own in the nest. June 6th, I found her sitting on four eggs; she allowed me to almost catch her before leaving

the nest. How pretty she looked sunk in the deep nest; her bill and tail pointing upward. The yellow of the crown and wing markings were beautifully blended with its pure blue gray plumage. After leaving the nest she behaved similar to the female of the first nest described, except that the male did not appear. None of these nests were built with any attempt at concealment.

Yours faithfully,

Hyde Park, Ont. JOHN A. MORDEN.

INTERNATIONAL FISHERIES EXHIBITION, LONDON 1883.

CONFERENCE ON JUNE 21, 1883.

The Marquis of Exeter in the chair said "the Conference would to-day be invited to give their attention to another branch of the great question of our fisheries, one which, though nearer home, and perhaps less exciting—for it involved no danger to either life or limb—was of great importance, and to many persons formed a most interesting pursuit. He alluded to the attempts which had been made to increase the value of our fisheries by artificial breeding and by importation; and they were much favoured in having the subject opened with a paper by Sir James G. Maitland, Bart., who had devoted a great deal of time and energy to fish culture."

We insert a portion of Sir James G. Maitland's paper on

"THE CULTURE OF SALMONIDAE AND THE ACCLIMATIZATION OF FRESHWATER FISH."

The culture of Salmonidae properly understood embraces not only their artificial propagation, but also the production of their food; the regulation of their ascent to their spawning beds and of their descent to their feeding grounds; the manner of their capture and their rapid and economic conveyance to market; just as much as the culture of corn is understood to mean not merely the sowing, but every step from the preparation of the seed bed to the marketing of the harvest.

The acclimatization of freshwater fish I will consider with special reference to the Salmonidae, and attempt to foreshadow the results of the importation of some of the best known foreign species.

After describing the artificial propagation of Salmonidae, the hatching house; water, its temperature, and the apparatus employed in hatching salmon, Sir J. G. Maitland says:—

"I will now consider the Hatchery as a

factor in the cultivation of migratory Salmonidae, restricting myself for the present to those species placed by Dr. Gunther in the group Salmones either with a wide geographical range, as *salar*, *trutta*, and *cambracus*, or limited to Great Britain and Ireland, as *brachyptero* and *gallivensis*, merely pointing out that while touching on the general conditions common to the increase of the above named species, the extermination of the Bull Trout on the Tweed and the Sea Trout on the Forth forms a very serious point to discuss in treating of the culture of the Salmon, and that the best results can only be obtained by the careful protection and artificial production of the species best suited to each particular district. The objects here are to increase Salmones whose pastures are in the sea, and whose nurseries are in the rivers. The size of the river has no fixed relation to the number and weight of fish caught in its estuary and contiguous seaboard, and if a very large number of smolts were annually turned in immediately above the tidal waters the stock of Salmones would be increased by a proportion of the number turned in, fixed only by the conditions of food and of natural enemies in the estuary and adjoining sea. I do not mean to say for an instant that all the fish reaching maturity would return or attempt to return to the mouth of the river in which they were liberated as smolts, but I think that the evidence tends to show that most of them would do so. The question at this point resolves itself into a matter of pounds, shillings, and pence. Salmon smolts of two years old can now be raised at less than sixpence apiece, and Salmon in the estuary on their return are probably worth on an average five shillings each; rent and the expense of nets, wages, and rates probably add another five shillings, of course if there was a much increased take the proportion to each fish would be less and all the fish that return to the estuary are not caught, but it will be sufficient for our purpose if we assume that a Salmon on his road to destruction is worth while still free five shillings two years after it has been liberated as a smolt; if, therefore, 10 per cent. of the smolts turned in are caught two years afterwards no profit will result, for the increase would only equal the first cost, and the interest on the outlay would be nil. The old idea in this country was to turn out young fish big enough (and big enough does not necessarily mean sufficiently educated) to

take care of themselves. The results from the Stormontfield experiment at first, when everything was new and in working order, were sufficiently marked; but they have not been permanent, and if pisciculture had achieved no more, Salmon culture, in this country at least, would be an interesting exotic, with magnificent results in some cases, far oftener with none; but fortunately it is not necessary to depend on two-year-old smolts for the future increase of our Salmon fisheries. Mr. Spencer Baird, who I am glad to see so ably represented at this Exhibition, in a letter to the Commission of Fisheries of the Dominion of Canada, refers to the magnificent increase of Salmon in California, an increase in five years from five to fifteen million pound weight in one river, an expenditure of merely two million Salmon fry per annum, which in this country would entail less than a thousand a year after making a full allowance for all expenses. But stocking with fry or with smolts is but a small portion of the great question; parts of some of our Salmon rivers are too fouled by pollution to rear fry after they are liberated; it is only by adapting the means to the end that Salmon culture can reach the highest degree of success. In many parts of the country where the pollution is only moderate, we can meet it by taking advantage of the pure water above or by turning smolts in directly above the tidal waters, but I am certain the surest remedy for pollution is to make pure water pay. It is easier to shake an industry to its foundation than to put something better in its place, and if, through fish culture, pure streams and more plentiful food would displace the black sewers of our midlands without the intervention of harassing legislation, fish culturists will not have laboured in vain. The Hatchery can supply eyed ova for the redds and fry for the shallows, and ponds should be constructed near the Hatching-house for yearlings, but where it is necessary to stock with smolts ponds for the purpose must be constructed near the head of the estuary, as the carriage of two-year-old samlets is neither easy nor economical. The time that intervenes between the smolt just entering the tidal water and its first return towards the river varies considerably on the east coast of Scotland; two summers may sometimes intervene, and we must be careful not to assume that all fish return or attempt to return in the grilse stage, for I have found in the case of the Lochleven

Trout only a small proportion spawn in the corresponding state. But whatever the time is we know that his growth is most rapid, and his sea food must be studied before much further advance can be made in Salmon culture; garvies and young herring probably form a great portion of his food, but whatever it be his paths in the sea are as well-marked, and to some fishermen, alas, as well known, as in the river. Trammels in the sea are successfully dropped by east coast fishing boats on their way out and lifted on their return. The food of Salmon at sea may possibly be influenced by the modes of fishing. Boats year by year go farther north and farther to sea for their Herrings; the fishing grounds are slowly but surely receding from the shore. It is too early yet to foreshadow the results, it may be that food inshore grows more plentiful now that the herrings are further out, or it may be that the herrings are further out because the inshore food has decreased, it may be, and to a certain extent it must be, a matter of changing currents and temperature; but what I wish to impress in this paper is that the sea food of the migratory Salmones forms a very necessary preliminary study to the great question of Salmon culture. A diagram expressing the art of Salmon culture would contain no broad, hard, rectangular lines, no vivid colouring easy to be understood, but flowing curves traced by the ever varying intensity of the now few now many circumstances whose combination constitute the problem of the migratory Salmones. Temperature and food are here, as with the nonmigratory species, the principal factors. The mode of captures and obstructions in rivers also weigh heavily against the increase of Salmon. But when one of our watersheds is sufficiently artificially stocked so that the advantages of the process are brought clearly and directly before the public an alteration in the modes of legal capture will assuredly follow. Of obstructions in the river it is difficult to treat; many upper proprietors prefer good Trout fishing to the pleasure of dragging about a few kelts in spring, and it cannot be too strongly impressed that Trout are most destructive to Salmon spawn, and that Salmon in their turn are after spawning most destructive to Trout. I am aware it is very commonly held that Salmon do not feed in fresh water, probably because in common with all large-ovated Salmonidæ the ovaries for from two to eight weeks completely fill the cavity of the

abdomen, and should the fish yield to hunger during this time the freshly swallowed food causes the immediate extrusion of the ova. If Salmon never fed in fresh water a well-mended kelt would be a superfluous expression in the parlance of fishermen. The deduction as to kelts in certain parts of the rivers is obvious. Obstructions in the river will interfere little with young fish artificially bred descending to the sea, although they are often fatal to the ascent of spawning fish. Returning to the artificial propagation of salmon, the selection of breeders is very important, eggs from young fish being far smaller in size and the fry hatched from them more delicate than is the case with ova spawned from mature breeders. I think it therefore necessary that the Salmon should be caught and selected as soon as the rod fishing closes, as by selecting the best hen fish the future stock of the water will be much improved. The non-migratory Salmones in this country are classed by Doctor Gunther under the following species—*S. fario*; *ferox*; *Gilleroo nigri-pinnis*; *orcadensis* and *levenensis*, but probably with the exception of the *S. levenensis*, which more nearly approaches a marine form, these are all more or less permanent varieties of *fario*; and their fry, at least those produced under artificial conditions, are more easily reared than the fry of the migratory species. Their cultivation may be said to consist in the selection of the oldest females for breeding purposes, in the artificial incubation of the ova and the rearing of the fry; beyond this their culture resolves itself into a question of habitat and food, of habitat by choosing the species or variety best suited to the ends in view, and of food, for it is only by increasing the food supply in the water that the heaviest weight per acre and the most delicate quality of the flesh can be produced. The cultivation of the food supply in fresh water is effected by the reduction of coarse consumers of food who come in competition with the Salmones, by the cultivation, introduction, and acclimatization of fish whose value as food for Salmones is greater than the value of the sustenance they themselves derive from the water, as, for instance, the Char of Loch Rannoch, who subsist almost entirely on the *daphne pulix*. The smelt, and some of the white fish also, may be the link in the chain which will bind the land-locked salmon to our northern lakes, and prove a very disturbing weight in the scales on the side of the upper proprietors on waters now tenanted by

the migratory Salmonidae. I have only just commenced the construction of a botanical pond to enable me to study water plants as herbage for molluscae, shelter for *grammari*, and the natural production of myriads, of *ontromostrica*. On the sea-shore of the Western Highlands if the kelp be not regularly cut, or in other words rudely cultivated, for cutting is most assuredly a process in cultivation, the whelks and bukies decrease on account of the want of the young tender shoots of seaweed, and the fishing in the neighbourhood is sensibly diminished. From this it is easy to understand what a great future may be opened out by the systematic culture of water plants in our inland waters. Food limits the culture of non-migratory Salmonidae, therefore our study must be where to grow it, how to grow it, when to grow it, and what to grow. In lakes some shoal swimming fish is essential to the growth of the large species of non-migrating Salmonidae. Since the Char have disappeared from Lochleven in the first quarter of the present century, the ten pound Trout in that loch have passed into the realms of romance. Acclimatization here steps in; either the freshwater Smelt of America or our own *Osmerus eperlanus*, which I have successfully hatched and am now rearing in fresh water, if introduced into a Highland loch, for instance, Loch Tay, would enable it to carry a very heavy crop of some of the larger inland species, for instance, the landlocked Salmon of Loch Werner in Sweden, or the *S. sebago* of America; but we must not conclude that the acclimatization of every species is in all cases desirable, for if the Black Bass were introduced into the Tay, and the Pike Perch allowed to sport wherever he listed, even were the sport with the new comers at all commensurate with the highly-coloured descriptions which we have read, it will hardly compensate for a troutless river, and a salmonless estuary. There may be parts of the country where the Pike Perch would form a desirable addition to the local fauna, but I cannot conceive the Black Bass, who is only at his best in waters essentially fitted for Salmonidae, to be other than a most dangerous intruder. The Colorado beetle boasts, I believe, of a special Act of Parliament, and I do think the introduction of strange and dangerous species of fish should only be attempted under State control. The *S. sebago*, should he retain in this country his non-migratory instincts, would probably be a splendid fish for the

Thames, and if used in the upper parts of the Severn would introduce a new and important element in the question of the respective rights of upper and lower proprietors. It is not for the public good that this should be done, for this fish would probably be able to hold the spawning grounds from all comers, and a rapid decrease of the migratory species would be the result, and if it be urged that a lake species would not localize itself to the upper portions of our larger rivers, still if crossed with a British variety, such as *S. levenenses*, it in all probability would do so. The acclimatization of the Corregoni, of which there are many species, all of which can be easily transported as alevins in my opinion, only to be considered as a factor in the production of food for more valuable Salmonidae. If we had the great American lakes, no doubt the large white fish of Canada would, if introduced, form a valuable article of popular food, but our space in this island is too confined to enable us to deal with other than the best we can have, and I doubt, except in a few solitary cases, if any of the Corregoni fall under this head."

Mr. WILMOT (Commissioner for Canada) said he rose with great pleasure to move a vote of thanks to Sir James Maitland for the very lucid and instructive paper he had read, for he felt satisfied that much benefit would be derived from it. He was a deep lover of the science of fish culture, believing it to be one of the means by which the population of the earth hereafter would derive much benefit in the way of food and wealth. It was well known that the waters of almost every country which had been largely inhabited had become very scarce of fish, but this result was brought by the greed and avarice of mankind almost entirely, not in consequence of the predatory habits of other fish which frequented the same waters. In any new country an abundance of fish was to be found in the rivers and waters, showing that the balance of nature was evidently correct; that though fish fed on fish, they did not exterminate one another; but the moment man stepped in with his engines of destruction, the fish were reduced to such an extent that this great International Exhibition had been established for the purpose of devising means whereby this description of food could be increased. He regretted to find that, to some extent, there was a difference of opinion with regard to the means to be adopted to this end, but, for his part, he

advocated the protection of fish in every possible way, as well as of assistance to those engaged in artificial production. In Canada this subject was of very great importance. It was now some years ago since artificial culture was introduced by himself, with the recognition of the Government, and now they stood second to no other country with regard to it. The number of Salmon they turned out annually was not exceeded by any other country in the world. During the last two years from thirty-five to forty millions of Salmonidae had been turned into the waters of Canada through the artificial process, and, though there were no doubt sceptics and others who were inimical to the science of fish culture, he thought that could only arise from ignorance of the benefits to be derived from it. At first sight it seemed extraordinary that fish could be produced by artificial means; but it was a most simple process when understood. Fish were so prolific, that man with a little ingenuity could produce from them far more than nature could herself, because it was a well known fact that large quantities of the eggs of the fish family were destroyed by other species. This was the ordained law; it was intended that fish should live on fish, because if all the eggs of fish were permitted to hatch out, there would be no room in the waters for them. Consequently, nature had provided wisely that fish should live on one another, and this being the case, large numbers of ova must be consumed. Under artificial culture, however, where the egg was protected from its enemies, a larger percentage could be brought to maturity than by the natural process. Hence, if it could be shown that 75 per cent. of the eggs could produce living fish, the system ought to be encouraged by all intelligent people. Sir James Maitland had gone into the matter in a most lucid and instructive manner, and there was no doubt that when the paper was disseminated it would do a vast amount of good. The only difficulty that he saw was, that it did not appear to go hand in hand with the ideas of some scientific gentlemen, who maintained that protection was not necessary to some of our fish. He contended, however, that if an intelligent country considered fish culture of service at all, it should also adopt every possible mode of protecting the fish. It would be no use for a pisciculturist to trouble himself to reproduce fish in great numbers if the intelligence and legislation of the country did not protect that which had been produced, and

if every one were allowed to fish without any control. It seemed to him, therefore, that it behoved all who were interested in this matter to join in every possible measure to enhance the production of fish, either by natural or artificial means, and also to protect the fish afterwards. Nearly every civilized country possessed laws for the purpose of protecting fish; and when some gentlemen came forward and said that fish could not be exterminated, the consequence must be that all these protective laws were a mistake, and that every one should be allowed to kill and eat as he pleased. He maintained, on the other hand, that it was the duty of the legislature of every intelligent country to suppress intemperance of all kinds, not only in the matter of liquids, but in killing fish; and to pass judicious laws for the benefit of mankind. If any law were more judicious than another, it was that the waters should be protected from the inordinate destruction of man, in order that fish might be produced in larger numbers, both as a luxury for the rich and for the benefit of the poor. He felt that he was treading on somewhat delicate ground in giving expression to these sentiments, but as this was the first opportunity he had had, he felt it his duty to express publicly the strong conviction which he entertained on this subject.

Professor HUXLEY begged leave to second the vote of thanks which had been so well moved by his friend Mr. Wilmot. Unfortunately, he had not had an opportunity of seeing Sir James Maitland's establishment at Howietown, but he had frequently been favoured by reading and hearing what he had done, and thus had the means of knowing not only the nature of his operations, but what was to his mind the singularly precise and accurate scientific spirit which he had brought to his work, and it was the secret of the very remarkable success he has obtained. In this matter, as in all biological questions, the secret of success lay in attention to minute details, and that was really the moral of the paper. You must, in the first place, be able to comprehend precisely—which very few people did—the exceeding complexity of natural conditions, and then you must know how to carry into practice all the precautions necessary to meet the variation in those conditions. He could not recommend anyone who was endeavouring to acquaint himself with natural history to take up a more useful and valuable study than that of the manner in

which Sir James Maitland had carried out his operations with regard to fish culture. He dwelt upon this point the more because, since the time—some forty years ago—when M. Coste first popularized the notion of fish culture, the idea became prevalent that you only had to carry out artificial impregnation, or the collection of spat in the case of Oysters, and the thing was done. He need not say what disappointment those who first experimented in the matter of Oyster culture were destined to undergo; that was a matter recorded not only in the minds but the pockets of a large number of persons. The same considerations applied to all forms of fish culture, and unless those who undertook it were prepared to work at it with that happy combination of science and practice which was exemplified in the case of Sir James Maitland, disappointment would await their efforts, as it had those of many persons who had attempted the same process. For himself, he did not take very rosy views of the value of protection pure and simple for sea fisheries, but perhaps he was all the more inclined to attach especial value to thoroughly well considered and scientific fish culture. He was inclined to think that it was in this direction we must look, and not to measures of inefficient protection, for the ultimate preservation of our fisheries. This was not the time to discuss the point, but he gathered from Mr. Wilmot's remarks that there was some extremely wicked person who had been saying that protection was of no use in Salmon fisheries; that people should be allowed to destroy anything and everything they liked; but anybody who heard the remarks he had ventured to offer at the first Conference would be aware that he, at any rate, was not one of those wicked persons: No one had insisted more strenuously than he had done on the absolute necessity for the most careful protection for those sea fisheries in which protection could be shown to be efficient, and if any one were prepared to show that measures of protection as efficient as those which were adopted in the Salmon fisheries, and which must be enforced unless the Salmon fishes were to be destroyed, would be equally efficient in the case of any of the sea fisheries, by all means let them be adopted, and no one would be a stronger advocate for protection than he should be; but, until it was made clear that the regulations were efficient, that you were really doing something for the fishery, and not

burdening the fishermen with useless and vexatious regulations, it would be better to leave the question of protecting sea fisheries alone.

Professor G. BROWN GOODE (U.S. Commissioner) said he should be pleased to give a few figures illustrating what fish culture could do. Professor Baird (U.S. Commissioner) informed him that the Sacramento River, California, was, owing to the large number of canneries there, to a large extent depleted of its Salmon; but by the establishment of a hatchery there he had turned out something like sixty-seven millions of eggs or young fry of the Californian Salmon in the past eight or nine years, one-fourth of which were put into the Sacramento River, and it was now much more productive than ever before. On the Clacamass, in Oregon, a similar experiment was tried some years ago with a like result. These experiments had clearly shown that the Salmon industry of the Pacific Coast, which was now producing fish to the value of something like three million dollars a day, was thoroughly under the control of fish culture. He might also take the case of the Connecticut, in the last century, which was one of the most productive rivers; but by the construction of a great dam, 60 miles above its mouth, the Salmon were cut off from the spawning ground, and for very nearly ninety years not a Salmon was seen. In 1866, or thereabouts, the Commissioners of Connecticut began to plant Salmon in this river, and four years afterwards they began to appear. In the first year 500 fine Salmon, of 15 lbs. to 20 lbs. each, were taken; in the following year almost an equal number. Since that the Commissioners of the States have discontinued Salmon culture in that river, the supply has again fallen off, and the river might now be considered practically deprived of its Salmon again. He simply wished to add a word in confirmation of what Sir James Maitland had said concerning American Bass. Although he did not like to say anything against a fish which was a countryman of his own, he thought it was a fish which interested only the private individuals who were able and willing to feed him, and were willing to pay any sum for the gratification they found in angling. So far as fish with which public fish culturists should deal, the Black Bass had no claims whatever, unless they put him into the same stream with Pike, and let them fight it out together.

(TO BE CONTINUED.)

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WILLIAM COUPER, Editor.

THE SOLITARY WASPS.

The Editor wishes to correspond with students of the ODYNERITES of Canada.

OUR MAGAZINE.

It is gratifying to state that this magazine is being appreciated by our Canadian readers, and furthermore encouraging to notice that, during the last year, it has been in demand by American writers on Natural History. Some of our readers doubtless anticipated that the serial would be more devoted to sporting matters, but we have discovered that it was impossible to devote much of our monthly space to this kind of news, as the daily papers generally contain reports on almost all occurrences of this nature. Occasionally some interesting original incidents are sent to us, which we publish because such matters are not within the ken of a newspaper reporter. Henceforth our pages are to be taken up by original subjects, relative to the Natural History of the Dominion of Canada, together with contributions on biological research. Our columns will, however, be open to those who love the use of the Rod and Gun.—C.

INSECTIVOROUS GROUSE.

A male specimen of the Ruffed Grouse, (*Bonasa umbellus*), sent to me from Lennoxville, P.Q., had its crop full of caterpillars of *Notodonta concinna*, commonly known as the Red-humped apple tree caterpillar. The bird contained about fifty full-grown caterpillars of this destructive moth. On opening the crop, I could not detect the strong acid smell that these caterpillars possess when living. Perhaps the bird (the body of which I ate with a relish), may have been provided with a counteracting fluid. This is the first instance coming to my notice, of our native grouse

feeding on caterpillars. *Notodonta concinna* are very general feeders; they occur in clusters on the leaves of the apple, plum, pear, cherry, rose and thorn.—C.

THE INSECTS OF CANADA.

I have received a "Label List" and a "Check List" of the insects of Canada, compiled by W. Brodie, L.D.S. and J. E. White, M.B., for the Natural History Society of Toronto. The label list contain the names of all insects known to occur in Canada, up to July of this year. The matter is carefully read and neatly printed, but I think that there should be some regard for system, as any Entomologist may notice that all the Diurnes and a portion of Walker's species of Diptera have capital letters, while species under the other Orders begin with lower case letters. The whole of the list should be uniform like the Hymenoptera, but the names of persons and places ought, in my opinion, to be capitalized. These lists are very useful to the entomologist. Copies are sold by the Society at one dollar each.—C.

ORNITHOLOGIST'S CONVENTION.

Since the publication of the works of Wilson, Audubon and Bonaparte, no large popular work on the birds of America has been brought before the public, yet the subject has by no means been dormant. Both professional men and amateurs have been steadily at work, and have not only added new species to the list, but have brought to light so many new facts relating to the history of the birds already described, as to necessitate their being classed in different groups from those in which they had at first been placed. These changes have become of late years so numerous, and having been published by different authorities, that it became a necessity to have the whole of the nomenclature and classification revised, and, if possible, placed on a permanent basis. For this purpose the ornithological depart-

ment of the Smithsonian Institution, at Washington, invited a few of the leading ornithologists of America to meet them in convention at the Museum of Natural History in the Central Park, in the city of New York, on September 26. The meeting was a very pleasant one, as it brought together those of similar tastes, who had for many years known each other by correspondence, and yet had never met. Mr. McIlwraith, of Hamilton, and Mr. Chamberlain, of St. John, N.B., represented the Dominion, and were heartily welcomed by their American cousins. The convention continued in session for three days, the principal business being the formation of an American Ornithologist's Union, with a constitution and by-laws similar to the British Association of the same name. Professor J. A. Allan, of Cambridge, Mass., was elected president; Dr. Elliot Coues, of Washington, first vice-president, and Mr. Robert Ridgeway, second vice-president, for the ensuing year. Committees were also formed to report on the migration of birds, on the desirability or otherwise of encouraging the English sparrow, and specially on the nomenclature and classification of American birds. In view of the importance of the work and the enjoyment it had afforded to those who took part in it, it was resolved to have those who had attended this first meeting photographed in a group as the founders of the A.O.U., after which the members reluctantly separated, to meet again in about a year, at such time and place as may be decided on by the council of the union.

THE SHAWINIGAN CLUB GROUNDS.

MY DEAR SIR,—I have read with much pleasure and interest the correspondence of a member of the Shawinigan Club, in the *Star* of the 13th inst., and will coincide with him, that the scenery of the Laurentides are unsurpassed, both in lakes, rivers and forests, abounding with game and fish of all qualities. From what I hear, most of our lakes within thirty or forty miles of Berthier, Riviere du Loup and Three Rivers, are all taken up by sportsmen, who intend keeping guardians over their grounds, and, more than that, stock some of their lakes with the famous land-locked Salmon or *Wawanish*. I see that our American friends and neighbors, who are generally good anglers, have taken up a large share and the balance is secured by Canadians, who are also good in the use of both rod and

gun. The Shawinigan Club deserves praise from every one who love to stimulate outdoor sport, for their exertions so far, in making their place so attractive. They have made wide portages on their grounds, leading to several beautiful large lakes; even ladies can walk over these with ease. I know of several of the fair sex who have patronized the club, and were plucky enough to go through steep portages, and several miles of canoeing without finding the least inconvenience; they have given the *entrain*, and made the club so much more sociable. Their club-house, out-buildings, ice-house and stable are built as log houses, very substantial and durable; occupying about twenty arpents of cleared land fronting on lake Wapizagonke; this year they have already harvested several bushels of grain and vegetables. The club canoes have been well chosen, light and heavy, suitable for portaging and lake use; the Peterboro' coming ahead for swiftness; the bark for lightness, and skiffs, also for the lake; besides sail boats which can be trusted in heavy weather. I wonder how the canvas canoe would suit; they are now made fifteen feet long, weighing seventy pounds and can carry 800 pounds, and, when folded up, can be carried on one man's head, his hands being at liberty; he can then carry a good deal more with ease. This would help considerably to a party of two, who would like to go straight along. The Peterboro' canoe, and even the bark canoe, after some wear, require two men to carry each of them, and they have often to return to the landing place, to load again what they could not carry at first while portaging; experience will tell. I also understand, the club intends to purchase tents of different sizes, and camping kits with all attachments for camping away from the club house. Guides can always be obtained by writing to St. Elie or Hunterstown, a couple of days ahead. I may mention here, having heard it stated by Mr. Baker, who resides at St. Elie, that the new government road has been cut out from his place to a point called Dufresne, thereby shortening the transit at least six miles to the members who will pass by St. Elie. I have just heard of the very pleasant time that one of the members had lately, under canvas, it being his first visit to the club's sporting grounds. The trip was made from Three Rivers, where one can obtain a double seat'd buckboard, with a strong horse to keep pace at the rate of six miles an hour, even through a sandy road,

for twenty-one miles, reaching the neat little village of Shawinigan, a strictly temperate locality, there being only one boarding house, quite neat and clean, and where the traveller can sit to a very good substantial meal. After an hour's delay the driver is again at the door, having then eighteen miles more to travel, through a very pretty forest, where one can kill partridges from his seat; this party, having bagged six for his share. Then the driver points out Dufresne; it is the name of a well-to-do farmer, who is most obliging, and where the old ones open the flask to salute him and his wife. His home is situated on a high coteau looking towards a large lake. Then ten more miles to the club house, passing through large open land very good for culture. Then the six miles portage, made at the expense of the club, a splendid wide road through the thickest forest, where partridges are occasionally seen, having again bagged several, and, at last, the club house is seen through the trees at a distance. On reaching the door, the men immediately hoist the flag, and a general salutation of contentment issued; a substantial meal was served, and, among other things, partridges which had been killed with stones the day before. During the evening the tents, camp kettles or cuisine, blankets, drinkables and eatables, the last articles being composed of boneless pork, flour, rice, pea and other substances, all prepared, with cheese, biscuit, and marmalade, carrying also a baker and a portable stove for the tent. This last item being a most comfortable piece of furniture in October; all were packed up and divided as evenly as possible, to be carried easily over the several portages to be made. We left the club for Matarvine river, going through lake Wapizagonke, paddling seven miles in one hour and forty minutes, against the wind, and through a creek into lake and isles, a couple of miles long; then, a portage of several arpents, where partridges were killed right and left; remarking also the imprints of bears, it was decided on the spot to send two bear traps to be placed on this portage when we returned; then another portage of several arpents into another lake; then the grand portage of two miles to lake Antiagamack, remarkable for its forests, huge rocks and its natural echo. This lake is famous for its pike, dore and ducks, but at this time of the year, when the water is still low, the fishing is not so good, but much better for ducks, which were plentiful, the

Black Ducks specially being in quantities, and of very large size; then, on through the Serpentine river, ten feet wide and two miles long, leading to the Matarvine river; partridges were shot on each side from the boat as we went along. The Matarvine, at its entrance, is about three arpents wide; land on each side being level and good; hard wood growing out freely; it is astonishing to see no settlers here, the land being so much better than in the vicinity of Shawinigan and St. Mathien, and not very far from the Piles Railway. The Matarvine at this point runs five or six miles long to the Castor Noir, very picturesque for its islands and sand banks, the water very smooth and clear; trolling is much enjoyed all along. Some places dore are caught abundantly; then, the pike are of eighteen and twenty pounds weight. Still-fishing at the Castor Noir is quite a curiosity, catching dore just as quick as one pleases, and of large size. Several little lakes can be found a few acres on the north side of the river, full of trout; some of these contain pike. The tent was pitched on the north side of the river, on an elevation and quite close to another tent occupied by an indian and his wife, who were there several days. The indian was away shooting; the wife was quietly knitting, her dog beside her; she spoke French fluently and was glad to see us. In front of their tent could be seen some fish being smoked and quite a lot of partridges, well preserved. The indian was quite a novelty and a good companion. During the evening he was questioned on his fishing, shooting and trapping expedition. He had travelled very far north, near Montichire and the Manavoine; had shot many caribou and moose; trapped many beaver and otter, and had fired at a bear quite recently, face-to-face, at ten feet distant. He told also of seeing the day before, five caribou together within an arpent, and was preparing to shoot, when his partridge dog started after them, running half an hour before coming back. He stated that caribou were plentiful, their footprints were seen everywhere, near the lakes and ponds, and sometimes in the portages. Though this trip had been got up to shoot large game, not one was seen, but as a consolation, many traces quite fresh were found everywhere. The party left, enchanted with the scenery, promising to return again. The weather was not very clear, being windy at times, still the air was bracing and cool helping to keep one's spirits in good condition.

The party returned to the club house with twenty odd brace of partridge, having seen the traces of caribou, bear, beaver, otter, marten and muskrat, this last one in abundance; and being perfectly satisfied that they could be shot and trapped, with time and perseverance. Fish were also in abundance; red trout, from one pound to six; dore of two to five pounds and pike from ten to twenty-five pounds, could be seen. Trout pilling into a narrow by thousands; they could easily have been killed with an oar, only for the close season. The party arrived home in good time, all the better for the trip, and desirous of returning again at the first good opportunity. If one could only be given the chance of killing a caribou or a moose, Mr. Editor, how the poor fellows would be feasted, and many of our friends would come in for a part of the spoil; in the mean time, I remain,

A LOVER OF OUT-DOOR SPORT.

INTERNATIONAL FISHERIES EXHIBITION, LONDON, 1883.

CONFERENCE ON JUNE 21, 1883.

(Continued from page 260.)

Mr. W. OLDHAM CHAMBERS, seeing Professor Brown Goode on the platform, thought perhaps he would have given the Conference the benefit of his experience with the *Salmo sebago*. A few months ago Professor Baird sent him over fifteen thousand eggs of the land-locked Salmon, in the hope that they would form an important feature in fish breeding in this country, but he said nothing or little about the *Salmo sebago*. He thought there were many rivers in England which were completely cut off from the sea, and if the land-locked Salmon could be introduced into them, or into the Broads of Norfolk, it would be very advantageous.

Professor G. BROWN GOODE remarked that his colleague Mr. Earle might be able to give more definite information concerning the land-locked Salmon than he could, but at the same time he should like to make up for his detractions of the Black Bass by saying a word or two in favour of the former fish. It was held in high esteem by his countrymen, as might be judged by the fact that the United States Commissioners had for some years carried on a hatching establishment on Grand Lake Stream and the subordinate streams on

other lakes in Maine for the propagation of the eggs of this fish. The young fry had been introduced into many smaller streams and lakes in the Northern States. The experiment had not been worked out to the utmost extent yet, but there was every reason to believe that the land-locked Salmon was going to be extremely valuable in the northern lakes, and he saw no reason why it should not be equally valuable in the lakes of Scotland. Mr. Wilmot was equally familiar with this fish, for it might be said to be more abundant in British North America than in the States. It was undoubtedly the same race as the *Salmo salar*. In some instances it had become land-locked by the erection of dams within the memory of man, in other instances it had become land-locked by natural causes before or soon after the settlement of the country, whilst in other instances, again, it was not land-locked by any artificial obstructions, but remained without any obstacle to its visiting the sea save the great distance it would have to traverse. It lived in the head-waters of some of the large rivers. The same might be said, to some extent, of the red-spotted Trout, or Char (*Salmo fontinalis*), which in the northern parts of Canada and Nova Scotia descended to the sea, where it lived during a large part of the year, and was known as the Sea Trout, and was a great favourite of anglers. It inhabited the lower stretches of rivers and streams, and frequently descended into the sea; those which did get into the sea were considered to be very fine. After passing the limit of Long Island, which was the limit of the distribution of Salmon, the same barrier of warm temperature which seemed to keep the Salmon from going up the large rivers, prevented the red-spotted Trout from descending from the mountains to the sea; and it had really become land-locked by reason of temperature barriers in the southern part of its range, though it extended into the southern spur of the Alleghanies six or eight degrees of latitude farther south than the point at which it was able to descend to the sea. The land-locked Salmon is a most delicious fish, though not quite so large as the *Salmo salar*; it was rarely more than eight or ten pounds in weight, and, on account of its long detention in fresh water and diminution in size, its eggs were considerably smaller than those of sea-running Salmon.

Mr. WILMOT said there was a celebrated American showman who once came to Eng-

land and took away an animal called Jumbo. The same gentleman in former years exhibited a certain animal at his museum in New York which he advertised as the "What is it?" It seemed to him the same term might be applied to the land-locked Salmon. His impression was that there was no such thing in existence as land-locked Salmon, scientifically or naturally. It was the true *Salmo salar*, which had a different coat and a different shape from the water it lived in, in the same way that the showman he referred to put a coat on the animal he exhibited. Land-locked Salmon, which he called *Salmo salar*, was a fish which could be obtained by any pisciculturist at his pleasure; all he had to do was to hatch from the egg of the *Salmo salar* a number of little fish, put them into a large body of water from whence they could not reach the sea, and if they found food congenial to their wants, they would grow and develop into a large fish, slightly changed in colour and scarcely perceptibly in form. Such had been his experience in America and Canada. Lake Ontario was filled with this fish. When he was a youth he had known thousands killed in one night, and the farmers caught them in such numbers as they entered the streams to deposit their ova, that some of them got enough to buy their farms with. In the stream which ran within a few yards from where he was born and brought up he had killed hundreds and thousands of them on their migration up from their sea, Lake Ontario, into the smaller streams and rivers to deposit their ova, in the same way as the *Salmo salar* left the ocean and ascended rivers. For want of proper precautions, proper protection and good legislation, this Salmon had almost disappeared from Lake Ontario. At first there were no laws in the country, and consequently every man killed as he pleased, and as the poor creatures came up, they were destroyed right and left. The Indians killed them, and the white Indians killed them still more. To prove that the *Salmo sebago* was the true *Salmo salar*, he might say that he had taken eggs of *Salmo salar*, impregnated them, hatched them, and taken them up into the rivers running into Lake Huron; and to-day some of the true *Salmo salar* were found in Lake Huron, though smaller than were found along the coast. That was evidence to show that you might make land-locked Salmon in any water you chose where the fish could find congenial food, and

where they could not get to the sea. It might be said, How could the Salmon in Lake Ontario be said to be land-locked when the St. Lawrence emptied that lake into the sea? Salmon were feeders in the sea and breeders in fresh water; they migrated annually to the rivers to reproduce. When they were abundant in the waters of the gulf, they passed up the St. Lawrence, entering every stream on either side up into Lake Ontario; and were it not for the great barrier of Niagara Falls the Salmon would be found in the upper springs of Lake Superior. It was their instinct to go onward and onward until they found a suitable spot for spawning, and they would have passed into Lake Erie and Lake Superior, the same as Lake Ontario, were it not for the Falls; the consequence was they entered into the smaller streams which fed the lake and went back into Lake Ontario instead of into the sea, where they had remained up to the present time, as the true sea Salmon only acclimatized to fresh water. Any gentleman in England who was desirous of having land-locked Salmon, if he had a lake with a great depth in the middle and small streams running into it, into which the fish could go to breed, might produce land-locked Salmon from the eggs of the Salmon of the sea.

Mr. BIRKBECK, M.P., on behalf of the Executive Committee, desired to thank Sir James Maitland for his excellent paper, and also to thank Mr. Wilnot for his remarks on the question of State aid to Fisheries. He thought the advice he had given was most excellent, and only regretted that the House of Commons was not more largely represented. He could only hope that through the press the members of the Legislature would be able to read, mark, learn, and inwardly digest what had passed, and would persuade the Government of the day to recognise the importance of giving assistance to our fisheries.

The resolution was then put and carried unanimously.

Sir JAMES G. MAITLAND, in reply, said that he was very glad that his paper had elicited remarks from the representatives of America and Canada, both of which countries were pre-eminently known for fish culture. He could not say that he agreed with all the remarks that had been made. Fishing was a very old art; fish had been caught ever since man went out in a coracle, but fish culture was still very young, and it would be expecting a great deal to expect Parliament to change legis-

lation in a moment before this art had had time to approve itself to the nation. With regard to his hybrid experiments, they were yet too young to say exactly what might come of them, but they showed peculiar forms in scaling, and perhaps might help towards connecting different species of Salmonidæ and reducing them down to one or two species, the others being merely varieties. He was much obliged to Mr. Wilmot for his remarks on land-locked Salmon; but having had some experience on lakes in Scotland where Salmon had been bred and had not gone into the sea, he had found invariably that where there were no Char in the lake the Salmon had become very large in the head, and seldom exceeded four or five pounds in weight. On the other hand, some nine years ago he got a few eggs of the Leuvi Trout from the late Mr. Buckland, and turned about one hundred and fifty into a small piece of water a little over one hundred acres, which contained nothing but small Perch. Last Friday a gentleman brought him one of these fish, which he had found washed ashore, which must have been just nine years old; it measured $33\frac{1}{4}$ inches, but was in very bad condition. The Trout when put under conditions of having shallow swimming fish beside it had obtained this enormous size, and he had no doubt it was absolutely necessary to land-locked Salmon to have shallow-swimming fish to feed upon. If they were not present in the water, they should be introduced first, and the *Salmo sebago* afterwards; this would make the experiment more successful. He concluded by proposing a vote of thanks to the Chairman, who had taken a great interest in the operations of the Fish Culture Association, of which he was President.

The Marquis of HAMILTON had much pleasure in seconding the vote of thanks to the Chairman. He could not but think that the speeches which had been delivered that morning would have the most practical effect on all those interested in fisheries. He hoped the observations made by Mr. Wilmot with reference to State aid being given to the fisheries of this country, would be earnestly taken up by the public at large, and that before many months had elapsed they would take a practical form, and be brought forcibly under the notice of Government.

The vote of thanks having being passed unanimously.

The CHAIRMAN assured Congress it had given him the greatest pleasure to be of any use by occupying the chair. He had seldom presided

at so interesting a meeting, or gained so much knowledge in so short a time. He must say he did not believe in land-locked Salmon as a distinct species. He believed you could produce a land-locked Salmon from the ordinary fish. He recollected when his uncle, the late Lord Spencer, had the shooting of Glenloch, near Kilin, he collected a quantity of par and put them into a small tarn high up on the hills, where they remained for several years. When they went to fish this lake they saw a number of silvery-looking fish of about 2 to 3 lbs. in weight, jumping just like Trout would do. He believed those fish were the par which were put in seven years before, which had turned silver, like Salmon. It was hoped they would continue to increase, but they became thinner, and gradually dwindled away. Before sitting down he must say a word in defence of the poor Black Bass, which had been so hardly used. He fully agreed with the remark that they should not be put into Trout streams, where they would be as destructive as Pike, but in many parts of England, particularly in his own country, there were neither Salmon nor Trout in the streams, only Pike, Perch, and the most abominable of all fish, coarse Bream. In those waters the Black Bass would be a useful addition, he would rise to a fly; he would take any bait; he would live with the Pike, and he was exceedingly good eating. They contained very few bones, and he thought the flesh was decidedly more like fresh Whiting than any other fish."

NOTES ON THE NATURAL HISTORY OF LABRADOR.*

BY W. A. STEARNS.

There has been much contention between the two great powers, France and England, as to who first discovered this great peninsula of Labrador. It was certainly visited by Sebastian Cabot in 1496; and more or less explored by the Portuguese Cortereal, who, it is supposed, named it.

The popular tradition of the coast seems to be "that one Labrador, a Basque whaler, from the kingdom of Navarre, in Spain, did penetrate through the Straits of Belle Isle as far as Labrador Bay, some time about the middle of the fifteenth century, and eventually the whole coast took its name from that coast and harbor."

*From Proceedings of the U.S. National Museum, vol. vi., No. 8.

There is very little doubt but that the coast here was visited by Norsemen as early as the tenth century.

There exists strong proof, also, that the discovery of this coast was made known by Basque fishermen.

As early as 1509, a chart of the coast had been published and was in the possession of the French.

In 1532, Jacques Cartier visited the coast *with Basque fishermen for pilots*,

The first established colony in Labrador appears to be that at "Brest," now Bradore, which was founded 1508, and soon contained 200 houses and 1,000 inhabitants, which number was trebled in the summer time or fishing season; but this colony did not survive over a century or a century and a half.

At present, from Red Bay to Natashquan, a distance of over 400 miles, there is scarcely a township containing more than thirty resident families.

The principal seal-fishing establishments are at La Tabatière, Dog Island, Bradore, Long Point, and L'anse Loup. At these the average catch of eight stations, where hand nets are used, that are about 40 to 75 fathoms long and 30 feet deep is 800 large and 50 to 100 small harp and hood seal. The catch of Newfoundland and other steamers and vessels is 13,000 to 16,000 young "white coats" on the ice in the spring. These figures are increased or diminished according to the season.

I have visited nearly every station of importance from Mingan to Triangle Harbor, some miles north of Belle Isle, and every where found the people hard at work at their fishery in the summer time.

Blanc Sablon forms the dividing line between the Province of Quebec on the left hand and southwest and Labrador on the northeast.

All along the coast there are little harbors and bays some of small and some large size. All these places that can harbor a vessel contain from one to three and eight—the usual number—of houses. They are various distances apart, say from half a mile to 8 miles, though generally from 3 to 5 miles. It is thus, save in one or two rough places, easy to go along the coast in small boats, stopping here or there in rough weather or at night.

In 1875 I made a summer excursion to Labrador, and remained there about two months chiefly within a radius of 50 miles southwest, and 10 northwest of Bonne Espérance.

In 1880 I visited the coast in September, and remained there the fall, winter, and spring of 1880-'81, returning home after an absence of just one year on the coast. During that time I visited nearly all the important points from Mingan to Red Bay.

In 1882 I spent the summer on the coast again, starting from Boston, as I had done in 1875 (my 1880-'81 trip had been from Quebec), with a party of about twelve young college men, when much good work was done in collecting, but owing to insufficient apparatus only enough to show what might be done with a properly fitted-out craft going for this express purpose and no other.

The following list of mammals, birds, and plants will show what has been accomplished in that line, and it is hoped that they will add, if ever so little, to our knowledge of the Labrador fauna and flora. Much more remains to be done, however, in each of these departments.

My examinations have been chiefly along the sea-coast. The interior has been rarely, if ever, to any great extent invaded by men.

MAMMALS.

During the three trips that I have made to Labrador I have found the following mammals more or less abundant (according to their designation) all along the coast:

LYNX CANADENSIS (Desm.), Raf. *Canada Lynx*.—Common, especially in winter, when it is hunted for its fur all along the coast.

CANIS LUPUS, Linné, var. *GRISEO-ALBUS*. *Gray Wolf*.—Reported as seen occasionally, but very rare.

VULPES FULVUS (Desm.), var *FULVUS*. *Red Fox*.—Abundant, especially in furring season.

VULPES FULVUS (Desm.), var. *ARGENTATUS*. *Silver Fox*; *Black Fox*.—The former variation is not uncommon; the latter is rare along the coast. I saw three beautiful skins of the black variation, with scarcely a light hair in them, caught on the coast.

VULPES LAGOPUS, (Linné) Gray. *Arctic Fox*.—Rather common, but getting more and more scarce in Northern Labrador.

MUSTELA PENNANTI, Erxleben. *Fisher*.—Found occasionally in the southern portion of Labrador.

MUSTELA AMERICANA, Turton. *American Sable*; *Marten*.—Abundant inland, in the furring season, throughout the peninsula.

PUTORIUS ERMINEA, (Linné) Griff. *Ermine*;

Stoat.—Common all along the coast and probably equally so inland.

PUTORIUS VULGARIS, (Erxl.) Griffl. *Common small Weasel*.—As far as I can discover equally abundant with *P. erminea*.

PUTORIUS VISON, (Schreb.) Gapp. *Mink*.—Abundant everywhere along the coast and about inland ponds.

GULO LUSCUS, (Linné) Sabine. *Wolverine*.—Rather common, but not nearly so often taken as one would imagine by the trappers. Seems to be pretty generally distributed along the coast.

MEPHITIS MEPHITICA, (Shaw) Baird. *Skunk*.—Seen occasionally in the lower portions of Labrador, but is rare.

LUTRA CANADENSIS, Sabine. *Otter*.—Common in the furring season all along the coast.

URSUS AMERICANUS, Pallas. *Black Bear*.—Common inland and along the high bluffs by the sea shore, all along the coast.

THALARCTOS MARITIMUS, (Linné) Gray. *White or Polar Bear*.—Rare, occasionally seen on blocks of floating ice off shore in the extreme northern portions. Twice recorded as far down through the straits of Belle Isle as Blanc Sablon.

PROCYON LOTOR, (Linné) Storr. *Raccoon*.—"Occurs at Square Island."—Packard.

PHOCA VITULINA, Linné. *Harbor Seal*.—Common. Rears its young on sand-bars about 15 to 20 miles up the rivers in the interior in the spring. Abundant outside in the fall.

PHOCA FETIDA, Fabricius. *Ringed Seal*.—Not uncommon in harbors in spring and fall. Distinguished from last species only on close examination.

PHOCA GRÆNLANDICA, Fabricius. *Harp Seal*.—Common in migrations all along the shores south of Belle Isle.

ERIGNATHUS BARBATUS, (Fabricius) Gill. *Square-Flipper Seal*.—Rather common on cakes of floating ice in the spring, all along the coast.

CYSTOPHORA CRISTATA, (Erxl.) Nilsson. *Hooded Seal*.—With *P. Grænlantica*, but less common.

Odobenus obesus, (Illiger) Allen. *Walrus*.—Rare along the coast of Northern Labrador. Two were shot in 1880 and 1881, at Fox Harbor, St. Lewis Sound, off the shore a little way. A gentleman of our party obtained the tusks of one of them, which were about 7 inches long and nearly an inch in diameter.

Regarding the deer of Labrador some con-

fusion exists. Two species, about equally common, are found throughout the peninsula in small, or less frequently in large (300 or 400), herds. They are probably the following:

TARANDUS RANGIFER, Brookes, var. *CARIBOU*. *Woodland Caribou*; and

TARANDUS RANGIFER, Brookes, var. *GRÆNLANDICUS*. *Barren Ground Caribou*.

ALCES MALCHIS, (Linné) Gray, the *Moose*, and *CERVUS CANADENSIS*, Erxleben, the *American Elk*, have both been reported as found on the southwestern portion of Labrador, about north from Anticosti, but they were doubtless very rare and occasional.

OVIOS MOSCHATUS, Blainville. *Musk Ox*.—

On the authority of Prof. A. S. Packard a single relic of this animal may be accredited to this region. Probably it was its most southern limit in former times.

DELPHINAPTERUS CATODON, (Linné) Gill. *White Whale*.—Common in the Saint Lawrence River, at least as far as Anticosti.

MONODON MONOCEROS, Linné. *Narwhal*.—Given on the authority of Professor Packard, but it is probably exceedingly rare.

ORCA GLADIATOR, (Bonnaterre) Gray. *Killer*.—Occasional all along the coast apparently.

GLOBICEPHALUS INTERMEDIUS, (Harlan) Gray. *Black-fish*.—Common in the Gulf, at least to the mouth of the Straits of Belle Isle.

GRAMPUS GRISEUS, (Cuvier) Gray. *Grampus*.—Not uncommon all along the shores to Belle Isle, and perhaps further.

PHYSETER MACROCEPHALUS, Linné. *Sperm Whale*.—Occasionally taken along the coast, as I am informed by the traders and people.

SIBBALDIUS BOREALIS, (Fischer) Geoffroy. *Sulphur-bottom Whale*.—Not regarded as rare. Frequently taken by the people along the shore. One towed ashore at Old Fort Island in 1878 or 1879.

One of the whalebone whales is occasionally taken along this coast, but which species it is I cannot tell. I am sure that several species both of whales and porpoises will be eventually added to this list.

SCIUROPTERUS VOLUCELLA, (Pallas) Geoffroy, var. *HUDSONIUS*. *Flying Squirrel*.—Occasional along the coast. Specimens found at Saint Augustine.

SCIURUS HUDSONIUS, Pallas. *Red Squirrel*.—Common in the woods along the shore, and probably inland also, all along the coast.

Gray squirrels are said to occur here also, but I did not see any.

(TO BE CONTINUED.)

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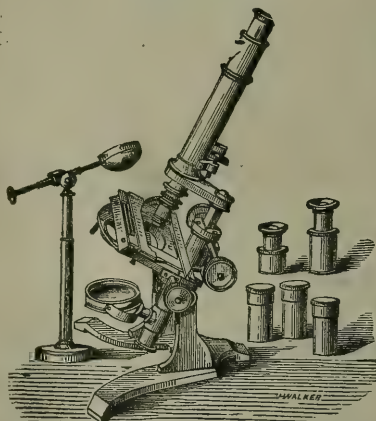
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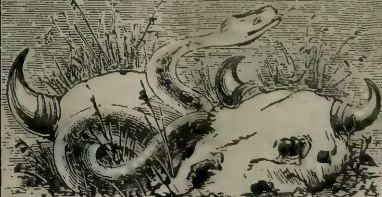
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VOL. III.
No. 10.
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THE CANADIAN SPORTSMAN AND NATURALIST.

No. 10.

MONTREAL, OCTOBER, 1883.

VOL. III.

WILLIAM COUPER, Editor.

TO SUBSCRIBERS.

We are anxious to have subscriptions to this magazine sent in before the end of this year. Our patrons in arrear would do us a favour by remitting on receipt of this number. It should be cash in advance.

CATALOGUE OF CANADIAN PLANTS.

A Catalogue of Canadian Plants was wanted by our Botanical students. The Geological and Natural History Survey of Canada have recently issued the first part consisting of *POLYPETALÆ*. The work is evidently authentic, and will be highly appreciated by Canadian Botanists. In fact the name of John Macoun is sufficient to make it reliable, and we trust that he may have health and strength to finish this good undertaking. It would be profitable to the people, and doubtless a pleasure to the Director of the Survey to see other documents emanating from it, as well examined and arranged as this work before us. The Government should give the intelligent portion of the inhabitants of Canada a chance of seeing the literature issued by each section of this Department. This is the first document from the Geological Survey, which has reached us since this magazine was issued, nearly three years ago, and we have to thank the author alone for it. The printing is by Dawson Brothers of this city, and it is done in a creditable manner.—C.

INJURIOUS AND OTHER INSECTS.

We have received the "First Report on the Injurious and other Insects of the State of New York," by J. A. Lintner, State Entomologist. The book is an octavo of 344 pages with general index. This Report is of great value to agriculturists and horticulturists, and the entomologist will find quite a study of new

material. It contains a list of the Apple-tree insects of the United States, which number one hundred and seventy-six species. Mr. Lintner purposes, as soon as practicable to present a report on Apple-tree insects, which shall contain notices of all the known North American species with figures illustrating them as far as possible, together with the most effective methods for preventing their injuries. This First Report of Mr. Lintner's is well illustrated—it contains good figures of the Vine Phylloxera; the Wheat midge in all its stages; the Cotton Moth; the Carpet-beetle; the Bag or Basket-worm (*Thyridopteryx ephemeraeformis*, Haworth;) The Larch Lappet (*Tolyte laricis*, Fitch.) The Bronze-colored Cutworm (*Nephelodes violans*, Guenee.) The Stalk-borer (*Gortyna metela*, Guen.) The Corn-worm (*Heliothis armiger*, Hubner. The Vagabond Crambus (*Crambus vulgivagellus*, Clemens.) The Dried Crambus (*Crambus exsiccatu*s, Zeller.) The Apple-leaf Bucculatrix and its parasites. The Apple-tree case-bearer (*Coleophora malivavella*, Riley. There are quite interesting chapters on injurious Dipterous, Coleopterous and Hemipterous insects. A figure is given of the punctured clover-leaf Weevil (*Phytonomus punctatus*, Fabr., the larva of which form a singular network cocoon, attached to the underside of leaves. Mr. Riley is now satisfied that Curculionidæ have been found to spin "yellow-brown threads, loosely interwoven, so that the fabric resembles net-work." The Appendix is occupied by the titles of Dr. Fitch's Reports, and descriptions and notes of new species of Lepidoptera, all of which is extremely interesting.—C.

"THE ACADIAN SCIENTIST."

It gives us pleasure to notice that the "*Acadian Scientist*" is now issued as a

twelve page magazine. Success to Canadian literature, say we. *The Canadian Sportsman and Naturalist* has had to work its way without Government pap; the "Scientist" may have had hard work to place itself in its present position, but such success may be attributed to positive friendship towards a good cause. Poor Provancher, the Editor of "*Le Naturaliste Canadien*" who received Government aid for fourteen years past, now says:—"Mort ressucité, et remort, comme aurait dit un célèbre maire d'une commune de France, nous ne reparaissons aujourd'hui devant nos lecteurs, que pour leur adresser nos adieux." Poor old man, he deserved a better fate. Canadian Natural History it appears is not appreciated as it should be by the Government of Quebec.—C.

AMERICAN ORNITHOLOGISTS' UNION.

The following Canadians are members of the American Ornithologists' Union lately formed in New York:—Regular members: Mr. Montague Chamberlain, of St. John, N.B.; Mr. W. E. Saunders, of London, Ont., and Mr. McIlwraith, of Hamilton, Ont., who are also among the "founders" of the Union; Associate members:—Mr. Brodie, Toronto; Mr. Boardman, New Brunswick; Mr. William Couper, Editor of *The Canadian Sportsman and Naturalist*, Montreal; Dr. Gilpin, Halifax; Prot. Macoun, Ottawa; Mr. J. M. Lemoine, Quebec; Mr. Morden, Hyde Park, Ont., and Mr. W. L. Scott, Ottawa. The associate members have all the privileges of regular members except that of voting.

A GOOD SUGGESTION.

MR. EDITOR—Taking a great interest in the columns of the *Canadian Sportsman and Naturalist*, I thought it would not be out of place to make a few brief notes on the study of Natural History for the young. I notice that the majority of the institutions in Canada which embrace this delightful science are composed mainly of adults who are interested in discussing problems too deep for the young mind; and I also notice that our American Cousins are ahead of us in this respect. Why should it be thus? Have we not an Association in the Dominion that would be willing to

devote a little of its time and means to instil in our boys and girls a love for Natural History, and shall we allow our friends over the line to do it alone? Until very recently the American people were on a par with us, but a gentleman in Lenox, Mass., came forward and proposed to organize an American Agassiz Association (called after Prof. Louis Agassiz, who was for years professor in Harvard College) in connection with the St. Nicholas monthly Magazine, to be devoted to boys and girls, which was accordingly done, and from the latest report I learn that it has 525 branches, and 5970 members; and it is really astonishing the interesting observations that are made by even the youngest of its members. I might mention that branches have been formed in Montreal, Toronto, Ont., and Sydney, C.B., all of which are in a flourishing condition, but without the assistance of older organizations they cannot expect to fulfil their mission. Those advanced in years know that they must be parted from their work very soon and perhaps leave it unfinished: the question here arises, who will finish it? I can easily answer no person if the young of to-day are not trained to do it. I wish not only to call the attention of scientists to this very important subject as I think all should be interested alike, fathers, mothers, teachers and even the Council of Education, because I think it is a matter of the greatest importance to the Dominion. Hoping Mr. Editor that the preceding notes may be read by the right authorities and that a reform may take place among some of our most influential institutions, and that they may organize clubs all over the country for the benefit of our young scientists and others that would study this branch, only for the difficulties it exhibits, is the most sincere wish of one of the oldest patrons to your journal, which cannot be praised too highly for the manner in which it presents to the people of Canada and the United States original observations and research on the Natural History of the country, so that even the youngest of its readers may read and understand.

Yours, &c.,

NATURALIST.

Montreal, Oct. 1883.

AN ICTHYOLOGICAL QUESTION.

Can the salmon (*Salmo salar*) live and propagate in bodies of fresh water which have no communication with the sea?

This question is now agitating the minds of

many of our fish culturists, fishermen and naturalists, and in view of the efforts which are being made to increase the supply of food derivable from our numerous and extensive lakes, rivers and creeks, is one the determination of which as early as possible is very desirable, as it may have the effect either of encouraging the artificial stocking of many of our waters with this very prolific and delicate fish, or of preventing a useless expenditure of time and money in attempting that which the laws of nature and of instinct prohibit. In this connection a glance at the natural history of the salmon and its congeners may assist those of our readers who are but slightly acquainted with the subject to form a rational *prima facie* opinion upon the same.

The natural habitat of the salmon is unquestionably the sea. In the salt water it thrives and increases in bulk and weight with astonishing rapidity; but it is not a deep water fish, never venturing far from the coast, along which it ranges in search of its food, which consists of shrimps, prawns, and other small crustaceans, sandlaunces, and the fry of herrings and other sea fish which come in shore to breed. When spawning time arrives, the instinct of propagation prompts them to leave the salt water, and resort to the fresh water of the rivers and creeks to deposit their ova. But they do not quit the salt water for the fresh all at once; they have to undergo a process of seasoning or "acclimatizing" before making the transition, for which purpose they will, for several days, or sometimes weeks, frequent the mouths or estuaries of their favourite streams, ranging up and down with the tide and keeping in the brackish water until fully prepared for the change of medium. As soon as their preparation is complete they take advantage of the first rise of the fall floods, which assures them of a sufficiency of water for their journey, and vigorously pursue their way to their accustomed spawning-beds in the upper parts of the streams; for it is a well-established fact that salmon habitually returns to the stream in which it began its own existence. In these arduous journeys it is no trifling obstacle which will interrupt, or even delay their progress, in which they display a degree of perseverance truly remarkable, stemming the swiftest currents and the most violent rapids, and even overleaping falls of six to eight feet in height. On one occasion the writer saw a fish, apparently about ten pounds in weight, make ten successive attempts to surmount the

cauld, *i. e.* the mill-dam, at New Mills, on the Whitadder, a small river which joins the Tweed about two miles above the town of Berwick, and succeed on the eleventh trial. On arriving above the influence of the tides the great "school" disperses, some of the fish remaining on the lower gravels, while others persistently pursue their way to the very head waters of their favorite streams.

Having deposited their ova, they begin to fall back towards the sea; but not with the same energy and rapidity with which they made their ascent, taking several weeks to complete their passage. Indeed, many of them remain over the winter in the deeper parts of the rivers, waiting for the spring freshets to carry them down with little exertion of their own. In the fresh water they rapidly deteriorate in health and condition, and become lean, lank and ill-shaped. The silvery brightness of their scales becomes tarnished and dull, and patches of dull red color appear on their shoulders and sides, while the rich, red, firm flesh assumes a dingy yellow color and a flaccid texture, and is unwholesome and in many cases dangerous. Once restored to the salt water, they soon regain their health and condition, and in the course of six or seven months are ready again to revisit the spawning grounds, having in the mean time gained an additional weight of from 30 to 50 per cent., or even more.

The ova, which are mostly deposited in the months of October and November, remain in the gravel till the following spring, when they hatch out into the small fish known in the English and Scottish rivers as the Par or fingerling. This fish is easily distinguished by its elegant shape, its deeply forked tail-fin, and by the dark bars or "finger-marks" and the bright red spots which ornament its sides. It remains in the fresh water of its native streams for about a year, in which time it attains a length of three to five inches, and a weight of from two to four ounces. In the months of March and April a change comes over its appearance, it assumes a coat of shining silvery scales which completely conceal the bars and spots, though if the outer covering is removed the original markings will be revealed. Contemporaneously with this change in their appearance they seem to be seized with an irresistible desire to visit the salt water, and the "smolts" which were scattered as par through the whole extent of the river and its tributaries, assemble in large shoals and, as if actuated by a common im-

pulse, set out on their journey, often of a hundred miles or more, to the sea. A series of experiments carried on in the Tweed and its tributary the Whittader in the years 1841-5 in which the writer assisted, seem to indicate that the young salmon remain in the salt water until the following year, when they appear again in the rivers in the form of "grilse" with a weight of from 3 lbs. to 9 or 10 lbs. each, and in the next season they return as salmon—which makes this fish require three years to attain its maturity. The instinct which impels the smolts to seek the sea is not less powerful than that which prompts the parent fish to reach the upper waters of the rivers, and they show an equal energy in attempting to overcome every obstacle that opposes their progress. Mr. Shaw, of Stormontfield, in Scotland, who was the first to identify the par as the young of the salmon, relates that in one of his experiments, he enclosed several par in a pond formed by excavating the bed of a small creek, the outlet of which was closed by a grating that formed a bar to their downward migration. When the time arrived for their migration, and they assumed the silvery livery of their species, so strong was their migratory impulse that they threw themselves in frantic leaps out of the water, and most of them perished on the dry ground on which they fell.

In view of these ascertained facts, that the salmon proper (*Salmo salar*) thrives only in the sea and becomes languid, lean and unhealthy when it remains long in fresh water, and that the fry or smolts at a certain stage of their growth are seized with an over-mastering impulse to seek the salt water, it would seem to be more in accordance with the order of nature, and therefore, more likely to be successful, to place the artificially hatched fry of the salmon (*S. salar*) in those streams only which afford access to the sea, and to stock the fresh water lakes and ponds which are wholly or partially cut off from the tide-water of the ocean with the fry of such species as have their natural habitat in fresh water, such as the great Makinaw trout (*Salmo namaycush*) the Siskawit, (*S. Siscowet*, or Lake Superior trout) and the Brook trout (*S. fontinalis*) in some of its numerous varieties.

It may be objected that our arguments are drawn from the habits of the British salmon and therefore will not apply to the American fish; but it is allowed by the naturalists and fishermen of both countries that the fish of

both localities are identical, and it is therefore fair to infer that their habits are similar, and that the argument drawn from the one will apply with equal truth to the other.

It is true that the artificially hatched fry which have been introduced into the upper lakes have lived and grown, and have even begun to propagate; but the diminution in size both of the fish and their ova, their slow growth, requiring a period of four years to attain a weight of eight pounds, while the salmon of the sea reaches about three times that weight in the same time, and the different color and flavor of the flesh give evidence of impaired vitality. Of those which have been placed in smaller bodies of fresh water, the report in most cases is that they have "disappeared," and the few which have survived to be captured in their third or fourth year are uniformly described as presenting a large head, a long lean body, and a dull leaden color.

While we view the movement to increase our supply of fish food by artificial hatching with unmixed approbation, and esteem the cultivation of the water as a most valuable adjunct to the cultivation of the land, we repeat that it would be more in accordance with sound principle, and therefore more likely to prove beneficial, to stock our "land-locked" waters with those species whose natural habitat is fresh water, and place the fry of the true salmon (*Salmo salar*) in those waters only which afford what the lawyers call free ingress, egress and regress to the waters of the ocean, for in such enterprises it is better to follow than to force nature.—*Bellerive Intelligencer*.

NOTES ON THE NATURAL HISTORY OF LABRADOR.

(Mammals, continued.)

BY W. A. STEARNS.

ARCTOMYNS MONAX, (Linné) Schreber. *Woodchuck Whistler*.—Common at Mingan, growing scarce towards Bonne Esperance.

CASTOR FIBER, Linné. *Beaver*.—Common in inland ponds all along the coast in furring season, but growing rapidly scarce.

ZAPUS HUDSONIUS, (Zimmerman) Coues. *Deer Mouse. Jumping Mouse*.—Not rare on the dry tops of many of the islands along the coast.

HESPEROMYS LEUCOPUS, (Raf.) Le Conte. *White-footed Mouse*.—Occurs probably about equally abundant with *Z. Hudsonius*.

A species of *ARVICOLA*, or *Meadow Mouse* is very abundant in summer.

FIBER ZIBETHICUS, (Linné) Cuvier. *Muskrat*.—Very common in the ponds inland all along the coast, at least to Belle Isle.

BRETHIZON DORSATUM, (Linné) F. Cuvier. *White-haired Canadian Porcupine*.—Very common along the coast certain years: periodical. Killed by the Indians for food.

LEPUS AMERICANUS, Erxleben, var. *AMERICANUS*. *Northern Varying Hare*.—Common, some years even abundant.

[*LEPUS AMERICANUS*, Erxleben, var. *VIRGINIANUS*. *Southern Varying Hare*.—Occurs in Newfoundland, but has not yet been recorded from Labrador.]

VESPERTILIO SUBULATUS, Say. *Little Brown Bat*.—A specimen flew on board our vessel one night, when about opposite Natashquan, and was secured. Other species doubtless occur.

BIRDS.

The following list of birds comprises those collected during a stay of twelve months on the coast in 1880-'81, and also some additions made the summer of 1882. A few are added on the authority of Dr. Coles in 1860. I think that the number of land birds will probably be largely increased by further investigation:

1. *MERULA MIGRATORIA*. *Robin*.—Saw a small flock at Old Fort Bay, October 10, 1881; shot a specimen April 26, 1882; found them breeding in the interior in June, same year.

2. *HYLOCICHLA MUSTELINA*.* *Wood Thrush*.—Certainly heard this bird repeatedly—other persons present verified the same—10 miles up Esquimaux River, one day late in July.

3. *SAXICOLA GENANTHE*. *Stonechat*.—Dr. Coles procured a single specimen at Henley Harbor, August 25, 1860.

4. *REGULUS CALENDULA*. *Ruby-crowned Kinglet*.—Shot a single specimen at Old Fort Island, October 11, 1881. Dr. Coles shot one August 6, 1860, at Rigoulette.

5. *PARUS HUDSONICUS*. *Hudsonian Chickadee*.—Abundant everywhere along the coast all the year.

6. *EREMOPHILA ALPESTRIS*. *Shore Lark*.—Common everywhere, except in winter.

7. *ANTHUS LUDOVICIANUS*. *Titlark*.—Common everywhere, except in winter.

* More like *H. alciw* (Gray-checked Thrush), since the Wood Thrush is not known to occur even so far north as the southern shores of the Gulf of St. Lawrence.
—R. B.

8. *DENDRÆCA CORONATA*. *Yellow-rumped Warbler*.—Common in interior. Breeds.

9. *DENDRÆCA STRIATA*. *Black-poll Warbler*.—Common in interior. Breeds.

10. *GEOTHLYPIS TRICHAS*. *Maryland Yellowthroat*.—Common at Natashquan.

11. *SIURUS AURICAPILLUS*. *Golden-crowned Thrush*.—Not uncommon in the interior. Breeds.

12. *SIURUS NÆVIUS*. *Water Thrush*.—Not uncommon in the interior. Breeds.

13. *MYIODICTES PUSILLUS*. *Green Black-capped Flycatcher*.—A specimen was shot by D. H. Talbot, Sioux City, Iowa; 10 miles up Esquimaux River; another specimen was seen and others heard. The bird cannot be rare.

14. *PINICOLA ENUCLEATOR*. *Pine Grosbeak*.—Common in fall and winter.

15. *ÆGIOTHUS LINARIA*. *Red-poll Linnet*.—Rather common in the interior. Breeds.

16. *PLECTROPHANES NIVALIS*. *Snow Bunting*.—Common in large flocks in winter.

17. *CENTROPHANES LAPPONICUS*. *Lapland Longspur*.—Rather common.

18. *PASSERCULUS SANDWICHENSIS* SAVANNA. *Savanna Sparrow*.—Abundant everywhere. Breeds. None seen in winter.

19. *JUNCO HYEMALIS*. *Snow Bird*.—Not rare in spring and fall. Obtained several near Old Fort.

20. *SPIZELLA MONTICOLA*. *Tree Sparrow*.—Not rare in spring and fall. With the last.

21. *ZONOTRICHIA ALBICOLLIS*. *White-throated Sparrow*.—Common everywhere. Breeds.

22. *ZONOTRICHIA LEUCOPHRYS*. *White-crowned Sparrow*.—Common everywhere. Breeds.

23. *PASSERELLA ILIACA*. *Fox-colored Sparrow*.—Common at least as far as Red Bay in spring and fall, if not in summer. (This sparrow breeds abundantly along the coast from Mingan to Belle Isle—C.)

24. *SCOLECOPHAGUS FERRUGINEUS*. *Rusty Blackbird*.—Common and breeds at least as far as L'Anse Amour.

25. *CORVUS CORAX*. *Raven*.—Abundant all the year.

26. *CORVUS AMERICANUS*. *Common Crow*.—A few are occasionally seen as far north as Esquimaux River.

27. *PERISOREUS CANADENSIS*. *Canada Jay*.—Abundant inland all the year.

28. *CHORDEILES POPETUE*. *Night Hawk*.—Common at Natashquan.

29. *CERYLE ALCYON*. *Kingfisher*.—Com-

mon at least as far as Esquimaux River. Breeds.

30. *PICUS VILLOsus. Hairy Woodpecker.*—Common inland in winter at least about Esquimaux River.

31. *PICUS PUBESCENS. Downy Woodpecker.*—I found this common with the last.

32. *PICOIDES ARCTICUS. Black-backed three-toed Woodpecker.*—On authority quoted by Cones. (Accidental behind the City of Quebec—C.)

33. *COLAPTES AURATUS. Golden-winged Woodpecker.*—Not rare, at least as far as L'Anse Claire.

34. *BUBO VIRGINIANUS. Great Horned Owl.*—Not rare in neighbourhood of Esquimaux River.

35. *ASIO ACCIPITRINUS. Short-eared Owl.*—A specimen was brought to me by one of the young fellows at Old Fort.

36. *NYCTEA SCANDIACA. Snowy Owl.*—Not rare in winter. All along the coast to Red Bay, at least, if not further.

37. *CIRCUS HUDSONIUS. Marsh Hawk.*—One specimen found at Dead Island Harbor.

38. *ACCIPITER COOPERI. Cooper's Hawk.*—Seen several times.

39. *ASTUR ATRICAPILLUS. Goshawk.*—Dr. Cones obtained one specimen.

40. *HIEROFALCO GYRFALCO OBSOLETUS? Labrador Gryfalcon?*—Saw the bird, and have no doubt but that he had a nest on an inaccessible crag near the house, but was unable to obtain it.

41. *ÆSALON COLUMBARIUS. Pigeon Hawk.*—Seen several times on our way down the coast.

42. *CANACE CANADENSIS. Spruce Partridge.*—Common all the year around.

43. *LAGOPUS ALBUS. Willow Ptarmigan.*—Not rare. In winter generally common.

44. *LAGOPUS RUPESTRIS. Rock Ptarmigan.*—Not rare. Generally common in winter.

45. *SQUATAROLA HELVETICA. Black-bellied Plover.*—Common in spring and fall.

46. *CHARADRIUS DOMINICUS. Golden Plover.*—A specimen of this bird was obtained at Fox Island, Saint Lewis Sound.

47. *ÆGIALITES SEMIPALMATUS. Semipalmated Plover.*—Common. Breeds everywhere.

48. *STREPSILAS INTERPRES. Turnstone.*—Common at Dead Island and along the coast in small flocks.

49. *PHALAROPUS FULICARIUS. Red Phalarope.*—Given by Dr. Cones, who procured them from off Belle Isle.

50. *GALLINAGO WILSONI. American Snipe.*—Given by Dr. Cones. A single specimen secured.

51. *MACRORHAMPHUS GRISEUS. Red-breasted Snipe.*—Given by Dr. Cones. A single specimen secured.

52. *EREUNETES PUSILLUS. Semipalmated Sandpiper.*—Common in spring and fall.

53. *ACTODROMAS MINUTILLA. Least Sandpiper.*—Common in spring and fall. Breeds in summer.

54. *ACTODROMAS MACULATA. Pectoral Sandpiper.*—Occasional in fall.

55. *ACTODROMAS BONAPARTEI. Bonaparte's Sandpiper.*—Abundant in large flocks, in spring and fall. A few breed.

56. *TRINGA CANUTUS. Knot.*—Not very common in fall.

57. *CALIDRIS ARENARIA. Sanderling.*—Common in flocks of 20 and 30 at Old Fort Island.

58. *LIMOSA HÆMASTICA. Hudsonian Godwit.*—I obtained a single specimen at Old Fort Island. It is said to be very rare.

59. *TOTANUS MELANOLEUCUS. Greater Yellowlegs.*—Not rare in fall and spring. I think breeds. Have found it late into breeding season.

60. *RHYACOPHILUS SOLITARIUS. Solitary Sandpiper.*—Not rare in spring and fall. Breeds.

61. *TRINGOIDES MACULARIUS. Spotted Sandpiper.*—Not rare. Breeds.

62. *NUMENIUS HUDSONICUS. Hudsonian or Jack Curlew.*—Not rare in fall.

63. *NUMENIUS BOREALIS. Esquimaux Curlew.*—Formerly abundant; now common in the interior in fall.

64. *BOTAURUS LENTIGINOSUS. American Bittern.*—Authority of Dr. Cones. One specimen.

65. *BERNICLA CANADENSIS. Canada Goose.*—Not rare in spring and fall.

66. *BERNICLA BRENTA. Brant Goose.*—Rather common at least as far north as Cape Whittle.

67. *ANAS OBSCURA. Black Duck.*—Common; said to breed.

68. *DAFLA ACUTA. Pintail Duck.*—Rare. I obtained one specimen of a pair seen at Old Fort Island. One taken a short time before near same place.

69. *MARECA AMERICANA. Widgeon.*—Occurs as far as Natashquan; said to occur inland at Esquimaux River.

70. *NETTION CRECCA. English Teal.*—Au-

thority of Dr. Coues, who obtained one specimen.

71. NETTION CAROLINENSIS. *Green Winged Teal*.—Dr. Coues obtained one single specimen at Rigoulette.

72. AIX SPONSA. *Wood Duck*.—Not rare in interior. Breeds in hollow trees

73. ETHYA AMERICANA. *Redhead*.—I saw a single specimen in the water at Baie des Roches, 23 September. Am told that it is common.

74. CLANGULA ISLANDICA. *Barrow's Golden Eye*.—Common in rivers as far as Natashquan. Said to breed in Esquimaux River in mild winters.

Nests of this species have been found in the woods near Lake Champlain, and the ducklings were seen commonly on the Godbout River during summer.—C.

75. CLANGULA ALBEOLA. *Buffle-head Duck*.—Common in fall.

76. HARELDA GLACIALIS. *Long-tailed Duck*.—Common in mouths of rivers in spring and fall.

77. HISTRIONICUS MINUTUS. *Harlequin Duck*.—Rather rare. Mouths of rivers, spring and fall. Probably breeds

78. SOMATERIA MOLLISSIMA DRESSERI. *American Eider Duck*.—Abundant everywhere. Breeds.

79. SOMATERIA SPECTABILIS. *King Eider*.—Abundant in spring in large flocks. I shot a great many of them. It is said to breed in this region occasionally. In *The Canadian Sportsman and Naturalist*, vol. 1, No. 7, July 15th, 1881, p. 51, in an article headed "Bird-nesting in Labrador," Mr. Napoleon A. Comeau, the writer, whom I know personally and who spoke with me personally to the same purport, says that on a small island opposite Mingan: "Indeed, one small island, visited by us, was almost covered with the nests of this species (*S. mollissima*), and here we first found the nest of its congener, the *King Eider* (*S. spectabilis*)." This is, I believe, the first record of this rare nest found on the Atlantic.

"Bird-nesting in Labrador" was written by Mr. William Couper, the Editor of this Journal.

SOMATERIA V-NIGRA. *Pacific Eider*.—Abundant in large flocks in spring. I myself obtained specimens that had the decided "V-shaped black mark" on the chin, and was told by the natives that there were "three different species of spring ducks so near alike that you could hardly tell the difference." This species has been doubted by several authorities. I still believe that I can secure specimens and prove its occurrence unquestionably.

80. OEDEMIA AMERICANA. *Black Scoter*.—Abundant. Breeds by inland ponds.

81. MELANETTA VELVETINA. *White-winged Coot*.—Common in fall, rare in spring. Not known to breed.

82. PELIONETTA PERSPICILLATA. *Sea Coot*.—Common in spring, rare in late fall. Not known to breed

83. MERGUS MERGANSER AMERICANUS. *Fish Duck*.—I have seen one specimen taken near Fort Island.

84. MERGUS SERRATOR. *Red-breasted Merganser*.—Common in spring and fall. Breeds occasionally.

85. LOPHODYTES CUCULLATUS. *Hooded Merganser*.—Rather rare but occasional.

86. SULA BASSANA. *Gannet*.—Common in Gulf of Saint Lawrence. Occasionally seen near the Labrador coast.

87. PHALACROCORAX CARBO. *Common Cormorant*.—Abundant off Meccattina Islands. Breeds.

88. PHALACROCORAX DIOPHUS. *Double-crested Cormorant*.—Common with the former.

89. STERCORARIUS POMATORHINUS. *Pomarine Jaeger*.—I have seen a specimen of this species I think taken near the mouth of Esquimaux River. Dr. Coues also obtained it.

90. STERCORARIUS PARASITICUS. *Richardson's Jaeger*.—Shot a specimen in St. Lawrence River, about opposite Point des Monts.

91. STERCORARIUS BUFFONI. *Buffon's Jaeger*.—Seen by Dr. Coues.

92. LARUS GLAUCUS. *Burgomaster*.—Not rare. I obtained several specimens. Breeds.

93. LARUS MARINUS. *Great Black-backed Gull*.—Abundant and breeds all along the Labrador coast.

94. LARUS ARGENTATUS SMITHSONIANUS. *Herring Gull*.—Common. Breeds everywhere.

95. RISSA TRIDACTYLA. *Kiltwake Gull*.—Common in spring and fall. Breeds occasionally.

96. LARUS PHILADELPHÆ. *Bonaparte's Gull*.—Common in large flocks in fall, perhaps spring, but not known to breed on the Labrador coast.

97. STERNA MACRURA. *Arctic Tern*.—An abundant spring and fall migrant in the Gulf. (I found nests of this Tern abundant on islands near Natashquan.—C.)

98. STERNA FLUVIATILIS. *Common Tern*.—Seen at Regoulette by Dr. Coues.

99. FULMARUS GLACIALIS. *Fulmar*.—Recorded by Dr. Coues off Belle Isle.

100. CYMOCHOREA LEUCORHOEA. *Leach's Petrel*.—Common off coast as far at least as to Belle Isle.

101. PUFFINUS MAJOR. *Greater Shearwater*.—Not rare off shore along the whole coast.

102. *PUFFINUS FULIGINOSUS*. *Sooty Shearwater*.—A few were seen by Dr. Coues in company with *P. major*.

103. *COLYMBUS TORQUATUS*. *Loon*.—Abundant. Breeds inland.

104. *COLYMBUS SEPTENTRIONALIS*. *Red-throated Diver*. Dr. Coues obtained "two eggs supposed to be of this species at Sloop Harbor, on the 4th of July."

105. *COLYMBUS ARCTICUS*. *Black-throated Diver*.—Two specimens were obtained of this rare bird off the Labrador coast by one of the French priests at Bersimis, one in 1880.

106. *PODICEPS HOLBOLLII*. *American Red-necked Grebe*.—Not rare in spring and fall. Occasionally breeds.

107. *UTAMANIA TORDA*. *Razor-billed Auk*.—Abundant, more so north of Esquimaux River. Breeds.

108. *FRATERCULA ARCTICA*. *Puffin*.—Abundant on one or two islands near Bradore; not rare in other localities along the coast.

109. *ALLE NIGRICANS*. *Sea Dove*.—Abundant certain seasons. Occasional all along the coast.

110. *URIA GRYLLE*. *Black Guillemot*.—Common everywhere in spring and fall. Breeds in certain localities abundantly, though not so much so as either *U. torda*, or *F. arctica*, or *L. troile*.

111. *LOMVIA TROILE*. *Foolish Guillemot*.—Abundant; more so south of Esquimaux River. Breeds like *U. torda* in vast colonies on the islands along the coast.

FISHES.

A very few of the species in this most important department have been secured this year, 1882; and though they are only the most common and abundant species, they will perhaps serve to show a part of the characteristic fish fauna of this region.

UTENOLABRUS ADSPERSUS. *Common Blue Perch*.—Was very common all about Cape Britain.

GASTEROSTEUS ACULEATUS. *Common Stickleback*.—Abundant in large swarms everywhere about the shoal waters of Cape Britain. I saw two specimens of *Gasterosteus biaculeatus*, taken off coast in the midst of a large sea, sporting in immense areas close by the vessel.

GASTEROSTEUS PUNGITIUS. Was found occasionally off Cape Breton coast.

OSMERUS MORDAX. *Smelt*.—Common in August, all along the shoal water off the wharves of Cape Britain.

SCOMBER SCOMBRUS. *Mackerel*.—Seldom taken at all on the Labrador coast, except as isolated individuals or by twos and threes. One per-

son at Triangle Harbor took eight while we were there, but said that he had not taken as many before in as many years.

SALMO SALAR. *Salmon*.—Common everywhere in the mouths of rivers all along the Labrador coast. The most abundant species of the family.

SALVELINUS FONTINALIS. *Speckled Brook-trout*.—Abundant in all the streams along the coast, seldom growing large. Is said not to be found in the ponds or far from the mouths of the streams, not mingling much if any with the large sea trout.

MALLOTUS VILLOSUS. *Caperlin*.—Abundant in large colonies in shoal water all along the coast. Used for cod bait, and pursued and fed on by the codfish in the water. When traveling in these large bodies the movements of the whole body seem to be almost simultaneous, and though the front of the phalanx is generally composed of a single fish, the two sides fall off triangularly, so that strange to say, the change of direction appears, if it is not in reality, to be simply the assuming the chief position by any fish, in any position along the line, while all the others immediately fall into their proper place, and the whole body moves off as an acute triangular shaped mass of living Caperlin. When few in number, they delight to swim singly, or by twos or threes in a long line, repeatedly sinking and swimming under the vessel from side to side, shortly returning again.

CLUPEA HARENGUS. *English Herring*.—Abundant north of Blanc Sablon, growing more and more so all along the Labrador coast, the further down which are the greatest catches. The young fish remain about in the waters all the year, if the reports of several different individuals can be credited. The people tell me that they refrain from catching the fish until September, so that the young may have a chance to grow to the fine, large fish for which this region is so celebrated, but that the nets might be drawn full of small fish in any month of the year when the ice did not interfere.

GADUS MORRHUA. *Common Cod*.—Abundant everywhere; but usually the fish are small, and seldom the size of those taken off the Grand Banks. Most of them go to France, where they seem to be preferred to the larger fish. The larger fish are taken chiefly in the fall, in deep water—70 to 100 fathoms—the spring and summer fish average 3 to 8 and 10 pounds, and are taken in about 8 to 15 fathoms of water. The Squid is not common nor even "not rare" along the Labrador coast. Although it is an abundant bait off Newfoundland, it is very rare along the Labrador coast.

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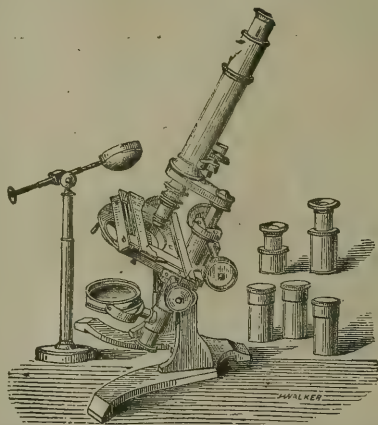
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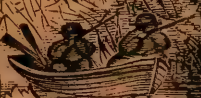
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VOL. III.

WILLIAM COUPER, Editor.

TO OUR SUBSCRIBERS.

This number terminates the third volume of the *Canadian Sportsman and Naturalist*. We regret to inform our subscribers that the publication ends with this issue. For some time past it became necessary to devote more time to our business than heretofore, owing to the large amount of work we have been favoured with; therefore we could not give the magazine the attention and labour required to continue it. We take this opportunity of thanking our friends who have assisted us. Although the publication will cease, our efforts will not have been in vain, as many valuable records can be found in its pages.

To subscribers who have remitted in advance, we will return the money, and those in arrears will oblige us by remitting subscriptions now due.

"THE AUK."

We have received the first number of "The Auk," a continuation of "The Bulletin of the Nuttall Ornithological Club," now issued as a quarterly journal of ornithology by the American Ornithological Union. It is an 8vo. of 108 pages, beautifully printed and full of interest to the student of North American birds. We are quite interested in the discussion by Drs. Merriam and Coues on bird nomenclature. It is only by the investigations of such talented men that we can ultimately arrive at a proper knowledge of ornithological literature. The writers will doubtless arrive at a proper understanding regarding "Ornithophilicalities;" they have commenced the matter and it must now be ended satisfactorily on one side or the other. In the meantime we think Dr. Coues has found a strong, energetic rival and critic in

Dr. Merriam. "The Auk" is published at \$3.00 a year, and it is really a cheap, useful and intelligent journal, which we commend to all lovers and students of Canadian birds.—C.

THE ART OF DECEIVING.

HOW FISH CAN BE INDUCED TO NIBBLE ARTIFICIAL FLIES.

The *Pall Mall Gazette*, in discussing the question of artificial flies for piscatorial purposes, says: Flies are commonly regarded as a necessary evil, but apart from this popular prejudice they have a special interest for fish and for fishermen. Though the flies on which fish delight to feast are legion in number, the artificial flies employed by the angler, are many more. Walton confines his list to twelve, which he quaintly calls "a jury likely to betray and condemn all the trouts in the river." But his knowledge of the subject was very limited, and it is plain from his description that he regarded them rather as fancy creations than as imitations of real insects. Many are the materials and many the devices wherewith art seeks to imitate nature. Perhaps the closest approach to a real fly body is the strip of twisted quill, taken from the opaque part of the feather stem, which is used in the construction of the "blue upright" and some other flies. Here the joints of the real fly's body, and its alternations of color, are closely imitated by the windings of the quill along the hook. Woolly bodies, however, are commoner. A very good body is made by twisting strips of peacock's "harl" (the fibres of the peacock's feather) closely round the hook. This is deservedly held in high esteem, but probably not one angler in twenty knows wherein its excellence consists. The artificial fly known as the "governour," intended to represent the ground bee, as a body of this kind; yet if the bodies of the natural and the artificial insects be compared they seem widely different. The one is a sober brown, covered like many other winged insects, with a short crop of very fine hairs; the other gleams resplendent with all the rainbow hues of the peacock's plumage. But sink both in the water, and each will appear of a silvery gray color. The short fluff of the natural bee and

the harl of the "governour's" body each retain a number of imprisoned air bubbles; hence the similarity of effects, and hence, too, the value of harl as a "body."

But, indeed, with all that ingenuity can devise, the artificial fly is but a poor imitation of its living prototype. And hence the much-vexed question. Do fish take a specific artificial fly for the specific natural fly that it is intended to represent! Now, salmon and sea trout flies cannot possibly be mistaken for any natural insects, inasmuch as there is nothing in nature which they resemble. It has been suggested that the gaudy salmon fly may be mistaken for some species of dragon fly. But, in the first place, dragon flies are not accustomed to career up stream eight inches or a foot below the surface of the water, which is the method of working the fly in salmon-fishing; and secondly, neither salmon nor salmon trout feed on dragon flies. It must, therefore, be something in the color which allures them, and not any similarity to a familiar object of food. It is more doubtful whether the same explanation holds good for trout and other fish. In the case of a distinctive fly, like the mayfly, the imitation must be taken for the real fly. So, too, when fish will rise only to an imitation of the fly on the water. Sometimes all depends on successfully imitating this, but at others the fish seem to prefer a different fly, or, what is stranger still a fancy fly. And this readmits the old element of perplexity. There are various kinds of fancy flies, but besides these many flies, originally intended as imitations, have become, by alterations in their size, fancy flies for all intents and purposes. The "red palmer" is a good instance of this. Originally intended to represent the "wooly bear," a caterpillar at least two inches long, the fly, as now tied, rarely exceeds $\frac{3}{4}$ of an inch in length and is usually much smaller. Yet is hardly a more successful fly, though what it is taken for is still a mystery. The trout of the Scotch lochs again greatly prefer fancy to natural flies. There is plenty of the latter on these waters, but the artificial flies always used are entirely fancy creations. Again, the perch, which does not feed on natural flies at all, will often rise boldly to a large artificial. Thus it seems that if fish in some cases certainly regard the artificial fly as an imitation of a familiar insect, in other they certainly do nothing of the kind, and are prompted to rise to it either with the idea that though strange to them, it is probably good to eat, or from

mere curiosity, or possibly under some sort of fascination akin to that which attracts moths, birds, and indeed fish also, to a light. The best way of presenting flies to the fish is a much less perplexing question: but even in this matter piscine tastes display some curious variations. In certain rivers, such as the Wandle, the fly must be kept dry, but in most streams it answer better when slightly submerged. This, indeed, might be expected. Since it is impossible to make a close estimation of a living fly, there is a better chance of deceiving the fish by presenting the bait to them as a drowned fly washed down by the current. It should be remembered also that the actual insects, when so carried down, present anything but a tidy appearance, and consequently that an old and touzled fly will often succeed where a pick-and-span specimen has utterly failed.

ANIMALS THAT HAVE DISAPPEARED IN RECENT TIMES.

In examining a collection of fossils, where the sand of limestones are almost entirely made up of organic remains, the most natural impression conveyed is that their extinction has been the result of a mighty cataclysm, some unexpected throb of nature that produced at one fell swoop the destruction of the continental fauna, but investigation shows the reverse to be the case. When extinction is not produced by man, it is the outcome of certain natural causes, reached only through long eras of time. Ethnologists have shown beyond a doubt that early man lived contemporaneously with many huge forms that are now extinct. Within a very few years some of these animals have passed away. One of the most interesting of recent cases is that of the great auk or *Alca impennis*. The skins or bones are so rare that each individual has its history and price; the latter might be quoted at \$1000 or more, as only 60 specimens are known in the world. No living specimen has been obtained for 40 years. In 1869 the Museum of Natural History at Central Park purchased one in London for \$750, and the bird and egg, both fine specimens, can be seen there. The auk was about three feet in height, its wings only three or four inches long. It was an inhabitant of the very highest latitudes, and at one time extremely common in the Arctic seas. The ancient shell heaps on the Atlantic coast shows abundant remains of this bird as far

south as the New England coast. Nuttall, in 1834, records the birds as then breeding in great numbers. "As a diver he is unrivaled," he says, "having almost the velocity of birds of the air. They breed in the Faroe Islands and in Iceland. Greenland and Newfoundland, nesting among the cliffs, laying but one egg each. They are so unprolific that if the egg be destroyed, no other is laid during the season. It is sometimes known to lay at St. Kilda and in Papa Wastra." The last seen alive were at the Funks, a small island in the coast of Newfoundland. In 1844, the last known to be alive on the eastern continent were seen at Iceland. In 1870 a dead, frozen specimen was found at Labrador, which though in poor condition, was sold in London for \$200. The only specimens in this country are at Central Park, Vassar College, Philadelphia Academy of Sciences, Cambridge University, and the National Museum. The single egg that the great auk yearly deposited was evidently not enough to insure its preservation, and year after year it became less abundant, perhaps killed by the Indians along our coast. Finally, the last one was destroyed, and in 200 years more its existence will be a legend and the steel engravings of the present specimens the only reminders of the giant of the auks.

Of the Labrador duck (*Camptolemus*) still less is known. In former years it was common on the north-eastern coast of North America and as far south as New Jersey, but for many years not a specimen has been seen or found, and the presumption is that they have met the fate of the great auk.

Among the Maoris, natives of New Zealand, there are traditions that many years ago there lived in their country a race of gigantic birds—the moa—that served as food for their remote ancestors. They are also positive that some of the largest birds have lived within the modern times, while in the interior the natives say that the gigantic bird may yet exist. They called the bird moa from its gigantic size, and the legends tell of its wonderful plumes and tail feathers, that were only worn by the great chiefs of the ancient Moaris. Its enormous bones were made into fish-hooks and various implements. These facts of rumours fell into the hands of the Rev. Dr. Colenso, a missionary in New Zealand some years ago, and his efforts to investigate them resulted in the discovery of a number of huge bones that at least confirmed the existence of the birds. A few years later, Mr. Walter Mantell,

the naturalist, went into the interior and settled himself among the Moaris, as Mr. Cashing, of the Smithsonian, has among the Pueblo Indians, to learn all he could of their traditions. As a result of his work he collected seven or eight hundred bones of a number of different species, which are now in the British Museum, and settled to his own satisfaction at least that the birds had flourished within comparatively modern times, and had been exterminated by the early inhabitants of the country. Some of the remains found by Mr. Mantell, standing upright, point to the conclusion that some of the larger ones became mired in the swamp, becoming victims of their own weight. Mr. Mantell secured a number of fine specimens and of great eggs, one of which would have been a meal for ten men. The bones of these birds are much larger than those of an ox, and some of the birds themselves were 14 feet in height. The finest collection of them in this country is owned by the Museum of Natural History at Central Park.

In 1847 an English scientist discovered the remains of a new bird in the menacconite sand at Waingouge, New Zealand. The bones consisted of the cranium, mandibles, sternum, humerus, femur, tibia, and tarsometatarsals, of a gigantic rail. Prof. Owen examined them, and stated from their osteological characteristics they belong to a large modified fowl of the same family of the Grallæ as the Porphyrio and Brachypteryx, and, like the latter birds, without the power of flight. From his deductions a new genus was established for its reception—the *Notornis*. Up to 1850 these fossil remains were thought to be only remnants of the bird; but in that year, much to the astonishment of scientists, a living representative of the species and genus was found in an unfrequented part of the island of New Zealand; since then a living one has never been seen, and it was undoubtedly the last of the race. The Moaris have a tradition that the bird was once very common, and a favorite article of food with their ancestors. It was called by them the Dodo, and by the natives in the south Tokohe. Mr. Mantell was the fortunate finder of the bird, obtaining the skin from some sealers who were fishing among the unfrequented islets of Dusky Bay. It appeared, according to Mr. Mantell, that when frequenting the coast in search of seals and other game, the men observed on the snow with which the ground was covered the foot-tracks of a large and

strange bird, and after following the trail for a considerable distance they caught sight of the object of their search, which ran with great speed. For a long time it distanced the dogs, but was at length driven up a gully in Resolution Island and captured alive. It uttered loud screams and fought and struggled violently; it was kept alive three or four days, and then (the men being ignorant of its value) was killed and the body roasted and eaten by the crew, each partaking of the dainty, which was said to be delicious. The skin, with the skull and bones of the feet and legs, was preserved, and obtained by Mr. Mantell, and in this manner the last of the race was preserved. The bird was a magnificent creature, about two feet high; the beak was short and strong and the legs were beautiful scarlet color. The neck and body were dark purple, the wings and back being shot with green and gold. The wings were short and round and remarkably feeble both in structure and plumage. The skeleton is now in the collection of the British Museum; price, \$800. Here also can be seen the remains of a nocturnal parrot (*Vestor productus*) that years ago inhabited Phillips Island, an isolated spot in the Southern Ocean, five miles in length, but now, according to the Norfolk Islanders who are only a few miles distant, has entirely disappeared.

ON LABRADOR.

DEAR SIR,—A few words about the Natural History of Labrador, while you are on the subject, seem to me to be especially appropriate here now as you are finishing my report on that region in the *Sportsman*. The forthcoming Bulletin of the U. S. National Museum Vol. V, I believe, will contain a report on the Invertebrates which I collected in dredging in the odd moments of three weeks on the coast, while upon an excursion there. I have not seen at this time, January 22, any sheets of the report myself, but understand that it combines, or adds a resumé of the work done in that region by Prof. Packard in 1860 thereabouts and published in the *Memoir* of the Boston Society of N. H. Now that good work remains to be done in that part of the coast can easily be seen. These preliminary reports show *part* of the field. What could be expected if one acquainted well with the coast should go there and spend the summer collecting and dredging, with apparatus for this and for fishing; and with plenty of alcohol

and cans and jars. I could confidently predict a perfectly magnificent harvest for any private individual or any institution who should make a small outlay for this purpose. A small house could be easily obtained for the summer, or better one built for the purpose at a small cost, and a permanent station made where renewed investigation could be carried on each year with a select corps, say of one good man with one or two assistants, and the result might even compare well with the work at present being done by the U. S. Fish Commissioners of the National Museum at Washington. There is no doubt but that the results would be invaluable in the investigations into the Labrador and northern fisheries. I believe that \$1000 would cover *all* expenses for the first year's work, and bring in such a host of rich and valuable material as to fully pay for all first cost of outfit and the season's work.

I want to say here, that I believe that this would aid in devising means of increasing the yearly "catch" in the Labrador and neighbouring waters. It is a fact past dispute,—at least to one who has spent all the seasons with the poorly fed and cared for inhabitants,—though the majority have none to blame but themselves and their own idleness—that the fisheries are not what they used to be on this coast. Yet to show that the fish *are there* yet, and in a goodly number, note the success of several large firms during the summers of '83 and '82. I believe that the establishment of such a station by the Canada Government would give a new impulse to the fisheries there, and everywhere within Canada waters. I believe that it is possible to revive the spirits of the "faint hearted," and that even the "habitually lazy," of which there are a great number on the coast would turn to and pick up more courage, and wish to improve their conditions and what is \$1000 if it accomplishes the double result of awakening renewed impulses of thrift in two to three hundred people, besides bringing in a harvest of its own peculiar kind in a complete display of the marine products of the fishing grounds; a complete series of the fishes in their different and peculiar stages of growth; and a complete practically illustrated collection of the Natural History of one of the most interesting regions of northern North America. How *much* more profitable this would be for science, and the world in general, than the fly away cruise of some "flying Dutchman"

to "Cape Fly-away" as Irving calls it, or the North Pole, with its loss of life, its expense, and its "no results." I believe the one as fully and as utterly practicable as the other is fully and utterly impracticable. It would probably not be difficult to find a man properly fitted for the work and ready and willing to undertake it.

Very respectfully, yours,

WINFRID A. STEARNS.

Acting curator of
Mass. State Ag'l. College.

Amherst, Mass., U. S. A., Jan. 22nd 1884.

American Ornithologists' Union.

BIRD MIGRATION.

At the first congress of the American Ornithologists' Union, held in September 1883, a Committee was appointed on the Migration of Birds. The purpose of this Committee is to investigate in all its bearings, and to the fullest extent possible, the subject of the migration of birds in the United States and British North America. The work will not be limited to the accumulation of records of the times of arrival and departure of different species, but will embrace the collection of all data that may aid in determining the causes which influence the progress of migration from season to season. For example, severe storms, gales of wind, protracted periods of unusually high or low temperature (for the locality and time of year) are among the atmospheric conditions that are known to exert marked effects upon the movements of birds. The opening of the leaves and the flowering of certain plants, with the correlative appearance of a multitude of insects, are also among the actors that have to do with the abundance of many species. Hence the careful registration of certain meteorological phenomena, and of the state of advancing vegetation from day to day, will constitute prominent items in the record books of the observer.

For the purpose of rendering the result of the season's work as full and valuable as possible, the Committee earnestly solicits the co-operation of every ornithologist, field-collector, sportsman, and observer of nature in North America. Indeed, a large corps of observers is absolutely essential to the success of the undertaking, and the Committee hopes to receive substantial aid from many who profess no knowledge of ornithology.

PLAN OF THE WORK.—For convenience in collecting and arranging the enormous mass of material which will be accumulated by the joint labors of this army of field workers, it has been deemed advisable to divide the vast expanse of territory embraced in the United States and British North America into thirteen Districts, each of which will be placed under the immediate direction of a competent Superintendent. The Districts, with their respective Superintendents, are:—

ALASKA, Supt., John Murdock, Smithsonian Inst, Washington, D. C.

NORTH-WEST TERRITORIES, Supt., Ernest E. T. Seton, Assinaboia, *via* Carberry, Manitoba.

NEWFOUNDLAND, Supt., James P. Howley, St. John's, Newfoundland.

BRITISH COLUMBIA, Supt., (not yet determined).

MANITOBA, Prof. W. W. Cooke, Caddo, Indian Territory.

CANADA, Supt., Montague Chamberlain, St. John, New Brunswick.

ATLANTIC SEABOARD, (Lighthouse's and Lightships from Canada to the Gulf of Mexico), Supt., (not yet determined).

NEW ENGLAND, Supt., John H. Sage, Portland, Conn.

ATLANTIC DISTRICT, (N. York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina), Supt., Dr. A. K. Fisher, Sing Sing, New York.

MIDDLE-EASTERN DISTRICT (Southern Michigan, Indiana, Ohio, West Virginia, Kentucky and Tennessee east of the Tennessee River, Alabama, Georgia, Florida) Supt., Dr. J. M. Wheaton, Columbus, Ohio.

MISSISSIPPI VALLEY (Dakota, Minnesota, Wisconsin, Nebraska, Iowa, Illinois, Kansas, Missouri, Indian Territory, Arkansas, the small portions of Kentucky and Tennessee west of the Tennessee River, Texas, Louisiana, Mississippi), Supt., Prof. W. W. Cooke, Caddo, Indian Territory.

ROCKY MOUNTAIN DISTRICT (Idaho, Montana, Wyoming, Utah, Colorado, Arizona, New Mexico), Supt., Dr. Edgar A. Mearns.

PACIFIC DISTRICT (Washington, Oregon, California, Nevada), Supt., L. Belding, Stockton, California.

The home of each observer is called a Station, and is recorded by number upon the books of the Committee. The Committee particularly requests that all persons who read this circular, and are willing to aid in the work, will *immediately* communicate with the Superintendents, of their respective Districts. Those residing in Districts whose Superinten-

dents have not as yet been named may address the Chairman.

It is the duty of each Superintendent to exert himself to the utmost to increase the number of observers in his District; to answer the questions they may put to him concerning the details of the work, etc.; to collect at frequent intervals the product of their labors; to ascertain from these data the whereabouts of certain species in winter, and the times of leaving their winter homes; to determine if possible the number and extent of the chief avenues of migration within the limits of his District, and the average of speed at which the different species travel; to locate the *breeding areas* of the summer residents; and, finally, to submit the result of the season's work to the Chairman of the Committee. The Chairman shall, in turn, arrange, condense, and systematize the material received from Superintendents of the several Districts, and shall present to the Union the fruits of the joint labors of all the collaborators, together with any comments, deductions or generalizations he may have made upon the same.

INSTRUCTIONS TO COLLABORATORS.—The data collected may conveniently be arranged in three general classes: *a.* Ornithological Phenomena. *b.* Meteorological Phenomena. *c.* Contemporary and Correlative Phenomena.

(a) Ornithological Phenomena.

Each observer is requested to prepare, at his earliest convenience, a complete list of the birds known to occur in the vicinity of his Station, and to indicate (by the abbreviations enclosed in parentheses) to which of the following five categories each species pertains:—1. *Permanent Residents*, or those that are found regularly throughout the entire year (R). 2. *Winter Visitants*, or those that occur only during the winter season, passing north in the spring (WV). 3. *Transient Visitants*, or those that occur only during the migrations, in spring and fall (TV). 4. *Summer Residents*, or those that are known to breed, but which depart southward before winter (SR). 5. *Accidental Visitants*, or stragglers from remote districts (AV).

It is also desirable to indicate the relative abundance of the different species, the terms to be employed for this purpose being: *Abundant, Common, Tolerably Common, Rare.*

In many species the males arrive in advance of the females, hence it is important to note the sex of the first comers, and the date at which the opposite sex is first seen.

In recording arrivals and departures, it is highly important to distinguish between the movements of the great bulk of the species and those of the forerunners or advance guard. For this purpose two dates should be recorded for the incoming, and two for the outgoing of every non-resident species, as follows:—1. The first appearance of the species (F). 2. The arrival of the bulk (BA). 3. The departure of the bulk (BD). 4. The last individual seen (L).

In addition to the above, which may be regarded as *essential data*, there are many other noteworthy details that bear more or less directly upon the complicated problems involved in the study of migration. Among such may be mentioned the bodily condition of the bird (whether fat or lean), the moult and the periods of song. The time of mating, when observed, should always be recorded.

(b) Meteorological Phenomena.

Extended meteorological data are not required, though the observer would derive material assistance from a systematic weather record. The Committee desires information upon:—1. The direction and force of the wind. 2. The direction, character and duration of storms. 3. The general conditions of the atmosphere, including rainfall. 4. The succession of marked warm and cold waves, including a record of all sudden changes of temperature.

(c) Contemporary and Correlative Phenomena.

The Committee desires that the data under this head be as full and complete as possible, and requests exact information upon:—1. The date at which the first toad is seen. 2. The date at which the first frog is heard. 3. The date at which the tree-toad or "peeper" is heard. 4. The dates at which certain mammals and reptiles enter upon an emerge from the state of hibernation. 5. The dates at which various insects are first seen. 6. The dates of the flowering of various plants. 7. The dates of the leafing and falling of the leaves of various trees and shrubs. 8. The dates of the breaking up and disappearance of the ice in rivers and lakes in spring, and of the freezing over of the same in the fall.

C. HART MERRIAM,

*Chairman of Committee on Migration,
Locust Grove, Lewis County,
New York.*

ON THE MOLE.

DEAR SIR,—I herewith send you some observations on the mole leaving you to add the scientific names to the little animals mentioned further on.

I believe that very few people know how voracious the common meadow mole is. I have read stories told by Indians about the Carcajou, or Wolverine killing and eating two moose in a single night, but my doubt have been almost dispelled by witnessing the gluttony of this little creature.

One day last week two White-bellied or Wood Mice were caught in a trap; I cannot say whether the mole or the mice were caught first but in the evening one living mole was found in the trap, and two full grown Wood mice, dead, one of the latter being about half eaten. The evening of that same day, the mole was placed in an old laundry boiler and the entire dead mouse given to it, which by morning was entirely eaten bones and all except the hair. We then gave the mole a large rat just killed, when it at once proceeded to eat out its eyes, and by 4 o'clock next afternoon one side of the rat's head, bone, together with the brains, were eaten, and strange to say the mole looked no larger.

The Indians of Hudson Bay say that the Carcajou, after eating one moose, squeezes himself between two trees, which process packs what he has devoured and makes room for moose No. 2; be that as it may, our mole had no chance for any such cheating, but did all by fair eating. Our curiosity was aroused to know by what means a mole or shrew could kill mice which were larger than itself; so four large meadow mice being procured, they were placed in the boiler with the mole, which as soon as it met a mouse, showed fight, but the mouse knocked it away with its front feet and leaped as far away as it could. The mole from the first seemed not to see very plainly and started around the boiler at a lively rate reaching and scenting in all directions with its long nose like a pig that has broken into a back yard and smells the swill barrel. The mice seemed terror stricken momentarily rising on their hind legs, looking for some place to escape leaping about squeaking in their efforts to keep out of the way of the mole which pursued them constantly. The mole's mode of attack was to seize the mouse in the region of the throat. This it did by turning its head as it sprang at the mouse, at the same time utter-

ing a chattering sound. The mice would strike at, and usually knock the mole away with their front feet but if the latter got a hold of a mouse, it would then try to bite, and they would both tumble about like dogs in a fight. The little chap at last attacked one mouse and kept with it, and in about ten minutes had it killed; but even before it was dead the mole commenced eating its eyes and face. About ten minutes later the mole had devoured all the head of the mouse and continued to eat. I have captured and caged several moles this winter and they all display the same untiring greedy nature. According to my observations the little mammal under consideration eats about twice or three times its own weight of food every 24 hours and when we consider that their principal food consist of insects, it is quite bewildering to imagine the myriads one must destroy in a year. I think they are quite likely to kill hundreds of insects more than they need to eat, amongst which there may be many of our greatest pests, yet many people destroy moles and bats at every opportunity, both of which may be numbered amongst our most beneficial and harmless creatures. I would here like to mention that I think whoever kills a toad is doing wrong as they also live upon insects. I once saw a dead one that a waggon wheel had crushed, and to all appearance its stomach must have contained at that time about a score of potato beetles besides other insects.

JOHN A. MORDEN.

Hyde Park, Ont., 8 Dec. 1883.

NESTING OF THE COMMON RAIL

(*Porzana Carolina*), Niell.

Assuming that some account of the nesting, and other habits of this bird may be interesting to your readers, I send you a few remarks in regard to my experience during the past season. Excepting stuffed specimens seen in different collections, I had never noticed one of them in our part of the country, until the evening of the last of July of the present year. In the evening while returning from my farm — *Wildwood* — which lies on the northwest of this corporation, I got a glimpse of a strange bird running along the edge of a pond. The farm is near the line, which is a continuation of the Main Street of this town and adjacent are a number of small ponds formed by excavating clay for brick-making. Some

of these ponds contain water throughout the year, but owing to the continuous rain-fall of the past summer they have been constantly full. In some of those laklets there are islets covered with grass; on others tall flags and bunch grass have grown, while a few of them are partially open. It was between the most western part of these ponds that I was passing when I caught sight of this rail, and as I approached to get a nearer view, I was surprised to see it apparently walking on the water, and then, as I drew still nearer, it rose, flew over to an islet in the centre of the pond, where it disappeared. The stranger was doubtless a rail and upon reaching home I informed my family of the interesting ornithological discovery, also stating my belief that the strange voices that we had heard among the flags for some time past was now solved, and with the hope of making further interesting "fuds" among the rushes, we determined to follow the search next day. Accordingly, I waded out to the islet where the bird had flown the evening before, but made no discovery. I was about to return when I got a sight of the bird rising from some bunch grass that rose out of the water near the road where we had passed almost every day since the opening of spring. On examining the place I was delighted with a view of a nest placed in a tuft of grass; it contained six eggs. This nest was formed of course dry grass, partly interwoven with the standing stalks, and raised to nearly a foot above the water. The eggs though much smaller, were of the same color, and marking as those of the American coot, being of a fleshy-brown, or dull yellow hue, dotted with different shades of purplish-brown, and averaging about one inch in length. These I took and though considerably incubated, I succeeded in saving them for my collection. After this "find" I proceeded with my boys to make a further search among the flags and grasses of the other ponds. We refished the bird and we were interested and amused at its peculiar movements in the water, and her mode of concealment among the water grasses. In the third pond I discovered another nest. It was similarly situated to the first one, but more concealed among tall flags. The female was sitting on it, but when I approached within a few feet, she leaped from the nest into the water. This nest contained nine eggs, and one young bird which also took to the water, and exhibited much agility at swimming and concealment. I caught it and noticed that it

was covered with black down, having a bright yellow spot on the throat, and a scarlet mark around the base of the bill. It uttered a plaintive cry somewhat like that of a young Spotted Sand-piper. Its alarms brought both the parents toward it; they splashed in the water, uttering notes resembling the "crake" of the Guinea-fowl, when excited. The common call of these rails resemble a shrill "peep," repeated a few times and ending in a rapid twitter. The eggs in this nest were nearly incubated, and when I returned to it some days after, three of the young were hatched and departed, the rest of the eggs were in the nest; these I attempted to blow, but only succeeded in the case of two, which were only partly incubated. I also noticed in the case of the first nest, that some of the eggs were much more hatched than others, from which it would seem that incubation begins when the first egg is laid and I would also infer that the male takes charge of the first part of the brood, while the female if not disturbed still remains on the nest until the whole or greater part of her set are hatched. I also found several other nests among the flags, but no more eggs of this species, but in one nest on a small islet, which appeared to have contained a large number, I found an addled egg, which, however, from its larger size, and different markings I think belonged to another species, perhaps the Virginian Rail, which I have reason to believe nested here, earlier in the season. From reading, and other sources, I conclude that this bird is the Sora, or Carolina Rail (*Porzana Carolina*). Up to the early days of October, we occasionally heard the notes, or saw specimens of the birds among the flags, or by the margins of the ponds. On the 6th of that month, we picked up one of this species—dead—but apparently uninjured and in full plumage. It may have been killed by the severe frost of the previous night. Intending, if acceptable, to continue my observations of our feathered visitant, I remain your truly,

WILLIAM L. KELLS.

Listowel, Ontario.

ST. NICHOLAS A. A.

In the November number of the *St. Nicholas* there appeared a suggestion, for the organization of a National Association for the Study of Nature, which met with a qualifying response as it was unexpected. The eager

interest which the more thoughtful of our young people take in Natural Science, was immediately shown by the great number of letters which were received by Mr. H. H. Ballard (its founder), in answer to the invitation. Chapters (branches) of the A. A. were organized in different towns, and where this was impracticable, individuals joined the Central Lenox Chapter as corresponding members. So rapid has been the growth of the Association, owing to the wide spread influence of "St. Nicholas," that there were in January, 1884, upwards of 547 Chapters and more than 1000 members which is increasing more rapidly than ever. The work is apparently only begun, and in a few years, it seems likely that they shall have more than 10,000 active members. The A. A. was originally started as a children's society, but, to our great delight, parents and teachers have taken as great an interest in it as the younger ones, and the Lenox Chapter have on their register the names of many fathers, mothers, teachers and college professors, without them it would be impossible to conduct so large an organization. But by the aid of their advice, and wisdom, we are enabled to refer nearly every question to some one in the society, able and willing to answer all his enquiries.

Among the many branches of the A. A. is the Montreal which was organized on January 4, 1883, with a membership of six which has steadily increased and now numbers forty-six resident and eight corresponding and honorary members. The branch is in possession of a small library and museum but on account of the difficulty in obtaining a hall in the municipality of Cote St. Antoine (at which place the Society is established), the collection had to be stationed in a room which is far from accommodating, as a number of the members cannot gain access to the library, the greater part of the books are loaned and will not be circulated, therefore the library must remain closed to the members until some individual or individuals take compassion upon them and open up a way whereby the Society and all its possessions may be accessible to the public, so that the friends of the Association may see what our young naturalists are doing.

During the past year twenty-one regular meetings have been held, at which twenty-nine selections and three papers have been read. Two lectures were held last spring to obtain funds for the purchase of a cabinet, which met with

great success, the Society netting about \$35.00 all of which has been absorbed in the purchase of a large cabinet for the museum, and a book case. A course of lectures is proposed for next spring the proceeds to be devoted to renting a hall for the Society and also to the purchase of books and specimens.

Two field-days were held last summer on Mount Royal, at which the members gathered specimens and received prizes for the best collections, and from the number gathered it showed plainly that the members were not wanting in enthusiasm for the work.

At the annual meeting the following officers were installed for the ensuing year:

J. J. Proctor, president; E. C. Trenholme, vice-president; W. D. Shaw, sec.-treasurer; Geo. Edwards, assistant-secretary, and the members for the different committees, viz.: ZOOLOGY.—R. Mitchell, F. McCallum, J. Smith. BOTANY.—A. Hutchison, W. Bonat, A. Woodward. GEOLOGY.—J. Smith, A. Murray, A. Hutchison. ENTOMOLOGY (extra).—Geo. Edwards, E. Trenholme and W. D. Shaw. CONCHOLOGY (extra).—E. Trenholme, Geo. Edwards and H. Jemieson.

In conclusion I might say that many boys and girls, and not a few men and women who like little kittins, have never yet opened their eyes to see the wonders of the earth, and some of us, like babies when they first "find their fingers" begin to catch at everything new and strange. Likewise some of us are just learning to see trunks of trees so as to recognize their infinite variety of form and color; others have likely, it may be, seen for the first time the beauties of the sky with its ever-shiffling miracles of white, blue and black, while slowly upon all we trust, is breaking the grand truth of a Divine mind expressing its thought in every leaf and pebble and of a Divine Heart showing its love in every rain-drop and in every flower. This was the truth which filled the great heart of him for whom the A. A. was named,—this was the secret of his untiring zeal, and the key to his boundless love of nature.

NOTES ON THE NATURAL HISTORY OF LABRADOR.

BY W. A. STEARNS.

(Fishes, continued.)

GADUS OGAC. *Greenland Codfish*.—Occasionally, but rarely, taken in deep water off the Labrador coast. Frequently taken within a mile from shore along the northern part of the coast, especially north of Belle Isle.

Often regarded as much more delicate eating than the common cod. Seldom grows large. Swims in bodies with small "tom cods," as they are called, which are probably the young of the common cod.

COTTUS SCORPIOIDES. *Sculpin*.—Common in shoal water, about the fish stages, all along the coast.

COTTUS GRÆNLANDICUS. *Northern Sculpin*.—Common with *scorpioides*, all along the coast.

GYMNACANTHUS PISTILLIGER. *Sculpin*.—Rather common in the northern portions along the coast like the others.

HIPPOGLOSSOIDES PLATSSOIDES. *Arctic Dab*.—Common about the stage heads along the coast.

PLEURONECTES AMERICANUS. *Common Flounder*.—Rather common, usually in deeper water than the *H. Platessoides*, along the whole coast.

SOMNIOSUS MICROCEPHALUS. This species of shark is found not rare all along the coast, some years doing more damage than others. It breaks the fish-nets, stops the fish from attacking themselves to the trolls of the fishermen, and is finally captured itself by some of the innumerable hooks of this same troll. After tangling and otherwise ruining the lines to the best of its power, it itself becomes the prey of the fishermen, who curse it heartily. The liver of this fish is said to yield the most delicate and pure oil of any fish known upon the coast. Several portions of the vitals are preserved by the people with the greatest of care, under the supposition that the wearing or carrying of them or the simple having them in the house will prove sure protection against not only the rheumatism, but several diseases peculiar to the male sex.

There are several other species common along the coast but of which we were not fortunate enough to obtain specimens, notably the *Lancee*, or *Lance*, the fall bait for the codfish. Several other species of trout are also common.

PLANTS.

In reviewing and adding to the excellent list of "Labrador Plants," by the Rev. S. R. Butler (Canadian Naturalist, vol. v, 1870, September, p. 350), it seems necessary to say a few words explanatory of the nature of the regions bordering the sea coast, as well also of those in the interior of Labrador.

There are two well-defined areas to which I would call attention; a simple designation of them as *sea-coast* and *interior* will present to you the general idea which I wish to convey. I will draw the line, as near as my own observation coincides with that of others, at somewhere between 2 and 4 miles inland. Of the interior of this whole region very little is

known. In summer, woods of mostly low, stunted spruce, with various evergreens, are everywhere abundant, and it is with the utmost difficulty that one can make any progress whatever. Few have attempted to penetrate this area, and we know but little of it. Its accessible edges abound in many plants very similar to ours, especially those crowning the summits of the White Mountains. That part styled the coast differs from the province just mentioned in that it is composed mostly of numerous low, hilly, inland crests, everywhere interposed with narrow straits of water, besides a narrow ribbon of land up and down the coast line itself. The general flora of all the islands is much the same, but there are localized species of both wild and introduced plants. Mr. Butler makes the following remarks prefatory to his enumeration of species in the above named paper: "The two places I have most thoroughly examined are Caribou Island and Forteau Bay. When a plant is marked 'Caribou,' it is meant that I found it only at that place; when 'Forteau' is mentioned, the plant may occur all around Forteau Bay, while 'Amour' means that I have found it only at 'L'Ance Amour,' and that it is not likely to occur elsewhere in the Bay; and where no locality is specified, the species may be expected to occur at many places, if not all along the coast." The collection of Miss MacFarlane, referred to in the same paper, has also afforded much valuable material. The specimens collected by myself were procured at *Harrington Harbor*, the southernmost limit visited, *Baie des Roches*, *Bonne Esperance* (in and about Salmon Bay); also the "winter quarters" of the inhabitants, a distance of 7 miles inland, up Esquimaux River, and which belongs to the mainland.

The list here presented is impartial and imperfect at best, but it will suffice until a more accurate and thorough examination of the country shall perfect it. The letter B, after a plant, signifies that the remarks are by Mr. Butler.

1. *ANEMONE PARVIFLORA*, Michx. — Common upon the high lands of Forteau. B.

2. *THALICTRUM DIOICUM*, Linn. — Common on the highlands, along the margin of streams, and in the interior visited by me, August 5.

3. *THALICTRUM CORNUTI*, Linn. — "(Miss MacFarlane, No. 1)."

4. *RANUNCULUS ACRIS*, Linn. — Rather common on the level grassy plats of Forteau, B., probably more or less distributed all along the coast in suitable localities.

5. *COPTIS TRIFOLIA*, Salisb.—Rather common in marshy grounds.

6. *NUPHAR ADVENA*, Aiton —“In ponds, Caribou.” B.

7. *SARRACENIA PURPUREA*, Linn.—Very abundant in one or two confined areas on the large Mecatina Island, at Harrington Harbor, July 26, and found also in the wet places among the rocks inland, October 1880.

8. *ARABIS ALPINA*, Linn.—“Brooksides, Forteau.” B.

9. *DRABA INCANA*, Linn.—“Caribou.” B.

10. *COCHLEARIA TRIDACTYLITIS*, Linn.—“Seashore, Caribou.” B.

11. *COCHLEARIA*,—“Hilltops, Forteau.” B.

12. *CAPSELLA BURSA-PASTORIS*, Moench.—Probably introduced, abundant at Bonne Espérance about the yard and pathways, August 11.

13. *VIOLA BLANDA*, Willd.—In greater or less abundance all along the coast in damp localities.

14. *VIOLA CANINA*, L., var. *SYLVESTRIS*, Regel.—Distributed much as in the preceding, but in dry localities.

15. *DROSERA ROTUNDIFOLIA*, Linn.—Not common. It is found in several localities along the coast. I found it in moist places about Bonne Espérance, August 12.

16. *SILENE ACAULIS*, Linn.—“Hilltops of Amour, also Old Fort Island.” B.

17. *ARENARIA GRÆNLANDICA*, Spreng.—This was found on the summits of many hilly crests at Baie des Roches, and though I did not find it elsewhere I suspect it occurs in like situation all along the coast.

18. *ARENARIA PEPLOIDES*, Linn.—Quite common, springing up in the sand along the shore. Mr. Butler found it at Caribou and at Forteau. I think it occurs generally.

19. *ARENARIA VERNA*, Linn.—“Hillsides, Amour.” B.

20. *ARENARIA LATERIFLORA*, Linn.—I suspect pretty generally common, as Mr. Butler remarks, in “level, grassy places.”

21. *STELLARIA LONGIPES*, Goldie.—Common all along the sea-coast Very common at Bonne Espérance, August 11.

22. *STELLARIA LONGIPES*, Godie, var., *EDWARDSII*, Torr. & Gray. (“Miss MacFarlane, No. 9. Torrey & Gray very properly reduce this to a variety of the last species.”)

23. *STELLARIA BOREALIS*, Bigelow.—Common on hilly slopes along the coast, especially at Caribou, B., and Bonne Espérance islands, August 11.

24. *STELLARIA CRASSIFOLIA*, Ehrh.—Dis-

tributed much the same as *longipes* and *borealis*, occurring in damp localities, August 11.

25. *CERASTIUM ALPINUM*, Linn.—“Very common at Forteau.” B.

26. *CERASTIUM ARVENSE*, Linn.—“Abundant about Forteau.” B.

27. *ASTRAGALUS ALPINUS*, Linn.—“Hillsides, Amour.” B.

28. *HEDYSARUM BOREALE*, Nuttall.—“Hillsides, Amour.” B.

29. *OXYTROPIS CAMPESTRIS*, D. C.—“Hillsides near Forteau light house.” B.

30. *LATHYRUS MARITIMUS*, Bigelow.—More or less common all along the coast in dry and moist places and on low land. Early August.

31. *LATHYRUS PALUSTRIS*, Linn.—“At Caribou,” B., and *probably* other places along the coast.

32. *POTERIUM CANADENSE*, Benth & Hook.—Very common on the dry, sloping flats along the coast. August 6.

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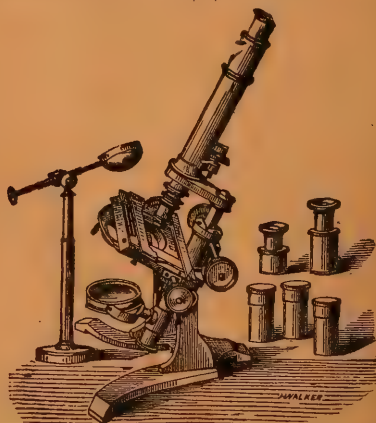
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